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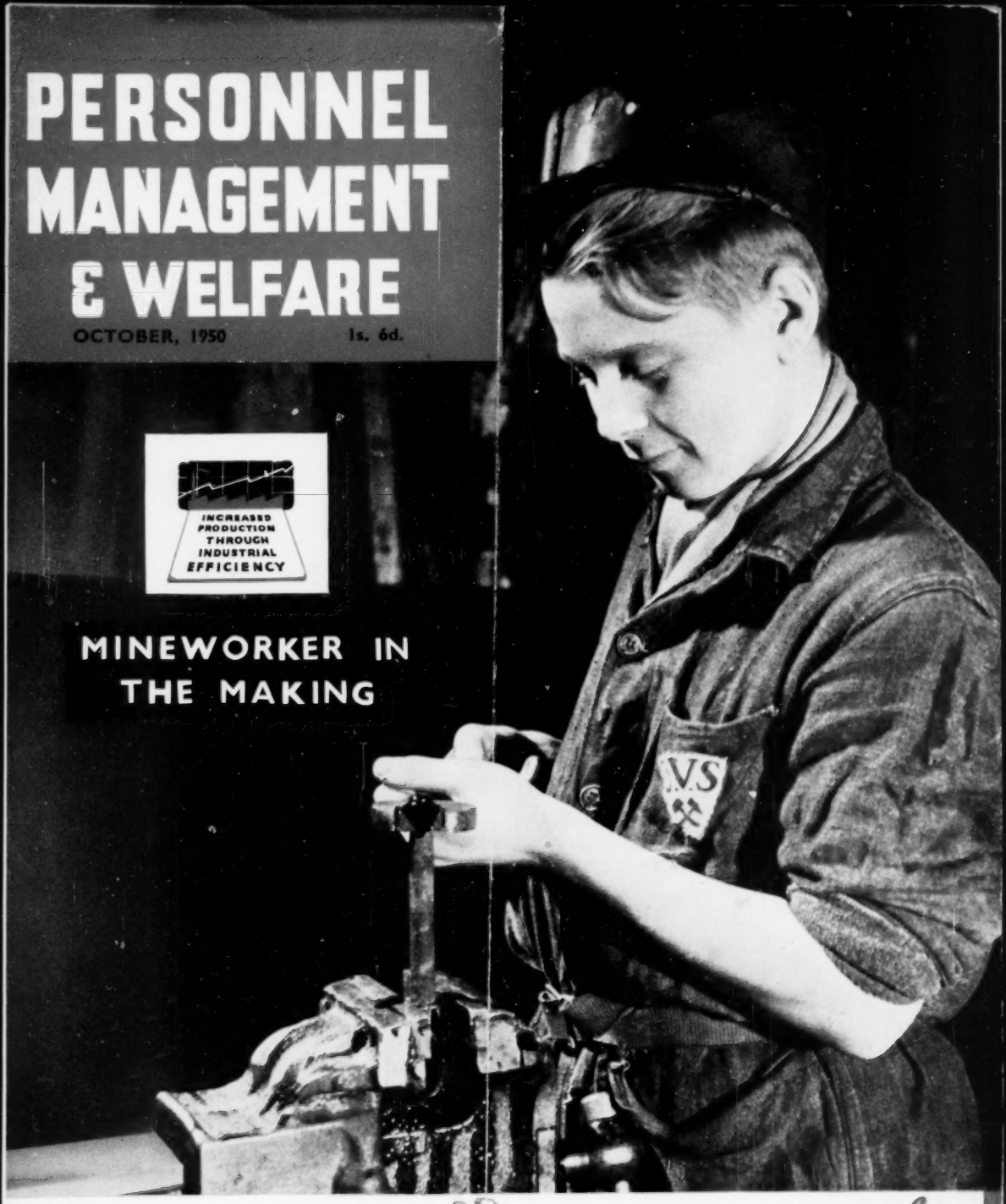

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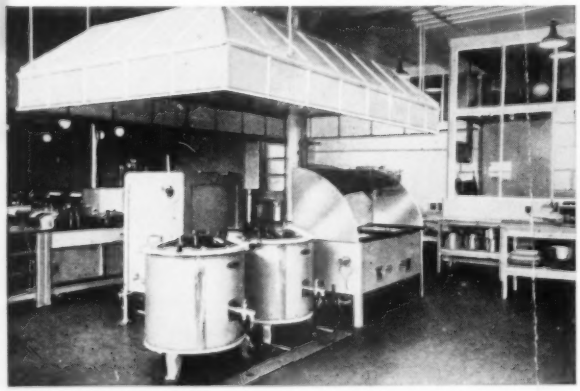

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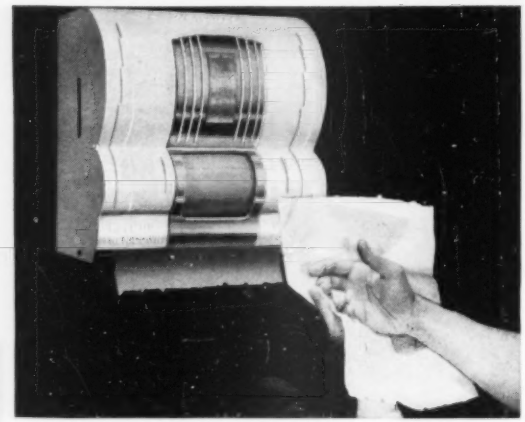

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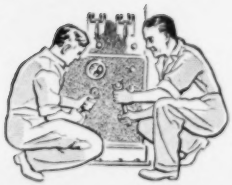

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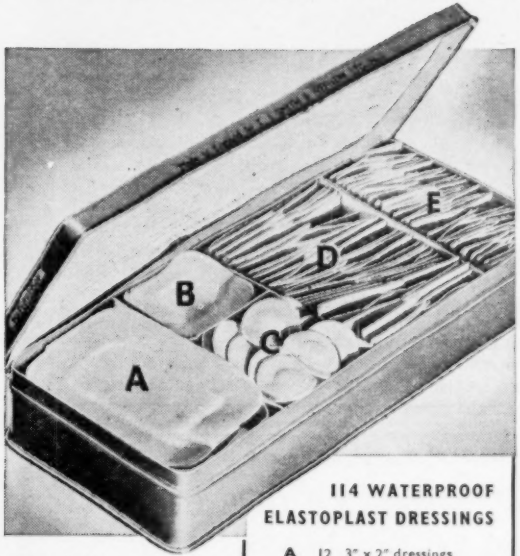

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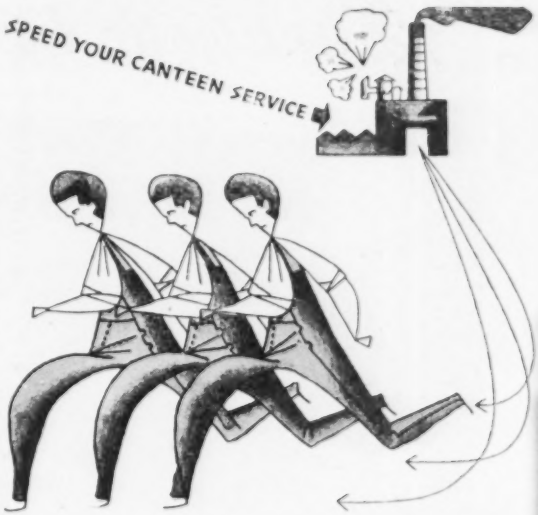

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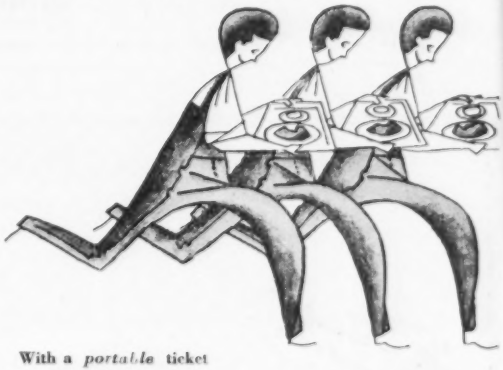

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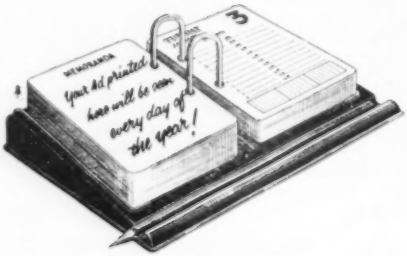

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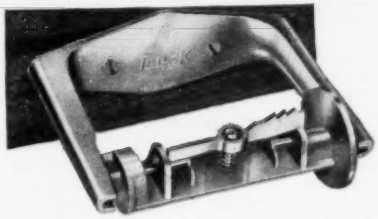

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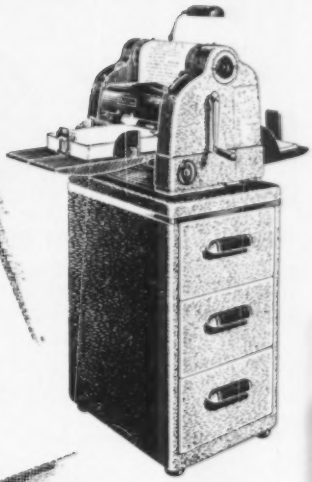

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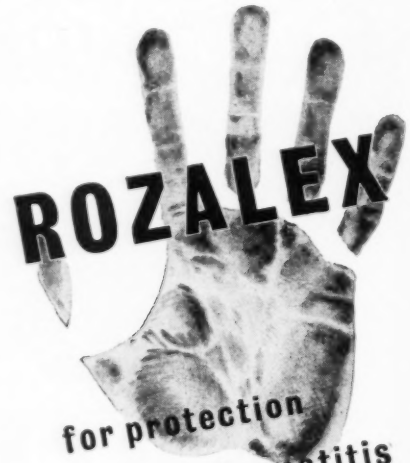

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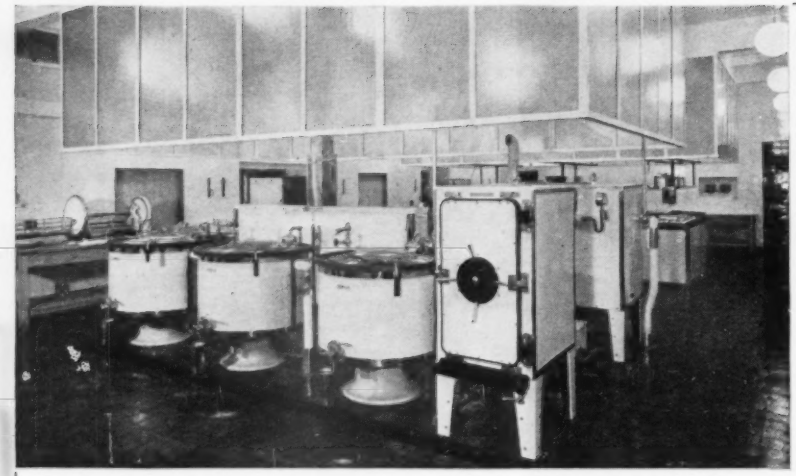

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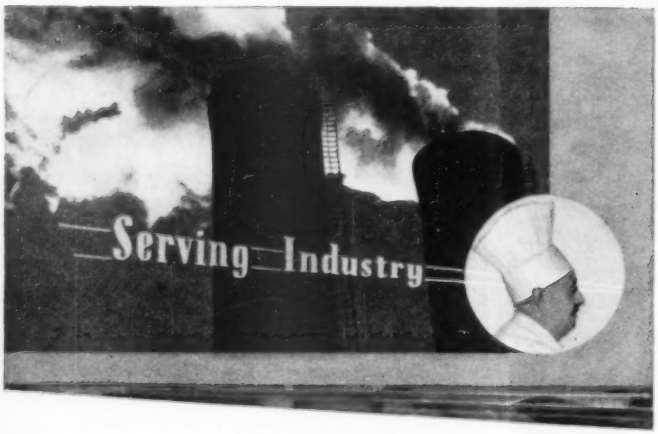

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INCORPORATING CIVIL DEFENCE JOURNAL AND A.R.P. AND N.F.S. REVIEW

VOL. 17 No. 125 OCTOBER, 1950

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COVER

Holland's nationalised coal-mines need recruits as badly as ours, but over there the methods of recruitment are different. This youngster commenced his career immediately he left school and by the time he is twenty-two or three he will be a highly skilled worker (*see report on page 168*).

Published monthly by Trade Chronicles Ltd., 180 Fleet Street, London, E.C.4 (CHA. 8844). Incorporating "Civil Defence Journal and ARP & NFS Review" and "Welfare," London. Subscription rates: 20s. per year, post free, U.K., abroad; 1s. 6d. per copy, 1s. 9d. post free in U.K. The Editor will consider articles, news items, photographs and details of new products. No responsibility is accepted for MSS., and stamped addressed envelope must be enclosed if return is desired.

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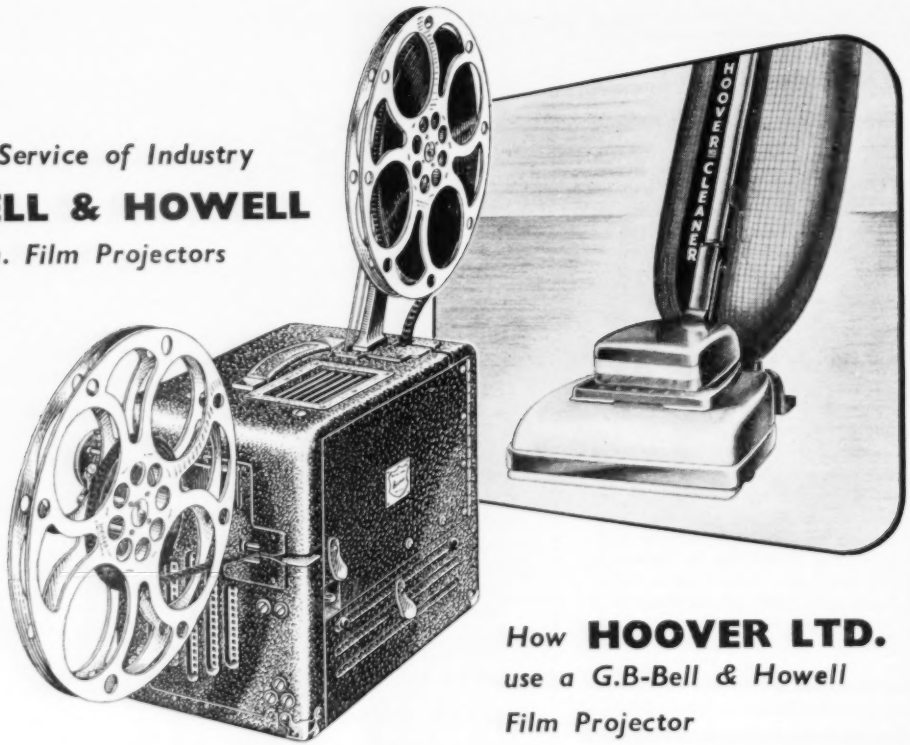

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In this series of advertisements we are happy to associate two world-famous products. Other famous users include Rolls-Royce, Carreras, Dunlop, English Electric, Mond Nickel, I.C.I., Shell-Mex, etc. We believe that a G.B.-Bell & Howell Projector could be of service to your Company, too—may we have the opportunity to demonstrate its applications ?

(Illustrated) The G.B.-Bell & Howell 16 mm. Sound Film Projector Model 601. Projects black-and-white and full colour films with true-tone reproduction of image and sound. No 'flutter' ; interference eliminator ; auto-lubricating ; fast rewind ; public address system. Lifetime service and guarantee. Other models available for rooms, halls, auditoriums, etc., of any size.

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"ROUTINE" PERSONNEL WORK

Builds Good Labour Relations

PERSONNEL MANAGEMENT AND WELFARE
INCREASED PRODUCTION THROUGH INDUSTRIAL EFFICIENCY

Typical of those firms where personnel work has been so long and so well established that it is no longer "news," is the Park Gate Iron and Steel Company Limited of Rotherham. While admitting that their labour relations are "very good," they modestly maintain that to secure this happy state of affairs they do nothing special—" just the usual routine " was how their Staff and Labour Superintendent expressed it. To the professional observer, however, this "routine" has much that is of interest.

HISTORY of the company shows that as far back as 1871 they had a Hospital Services Scheme; a similar scheme operates today. For a contribution of 1d. per week members receive convalescent treatment, grants for surgical appliances, specialists' fees, private beds in hospitals or nursing homes, comforts whilst in hospital, loan of home nursing aids and cash allowances in cases of long illness. The year 1902 saw the start of the Works First-Aid Services. Today a first-class Medical Centre, staffed continuously by State-Registered nurses and with part-time attendance of a medical officer, operates for twenty-four hours a day and is equipped to provide every kind of treatment, including minor operations. A Works Accident Prevention Advisory Committee was formed in 1928: today the company employs a full-time Safety Officer and each department has its own Accident Prevention Advisory Committee. In 1930 a Pension Scheme was introduced for staff employees of 21 years of age and over. The company and individual make a like contribution to provide for a retirement pension with life cover in the event of prior death. In 1935 a Pension Scheme was introduced for all employees other than staff. This scheme is non-contributory, the company making a gift pension at retirement according to years of service.

The Early Days

First milestone in the path of labour-management negotiations was the formation and recognition of the British Steel Smelters' Union in 1886, followed by the Steel Ingot Makers' Association in 1890, and the National Steel Smelters' Union in 1899. The year 1905 saw the principles of negotiating machinery laid down and the adoption of the steel sliding scale in melting shops. In 1919 came the national agreements for eight-hour shift working, and in 1921 the steel sliding scale was extended to all process workers. 1923 marked the national agreement with bricklayers; 1924 the national agreement for lower-paid men; and 1925 the national agreement with the labouring unions as well as district agreements with the craft and enginemen's unions. In 1930 came the national steel melting rates agreement; in 1937 the 48-hour week national agreement for blast-furnace men; and the national agreement for one week's holiday with pay was adopted in 1938. Developments since the war—cost-of-living bonuses, guaranteed employment, etc., are familiar matters.

This is not only the history of the company, of course, but of the industry. Nevertheless, the observance and implementation of these agreements by the company has undoubtedly contributed much to the confidence which exists between management and men. Employees have always had the assurance that they would get a fair deal, and evidence of this exists in the fact that more than 58 per cent of the 3,650 workers on the pay roll have over ten years' service. Other factors, too, have helped to cement these good relations. For example, disciplinary action of any description is not taken until there has been a thorough investigation of each case. All enquiries are conducted by the Staff and Labour Superintendent in the presence of the manager or foreman, the employee concerned and the

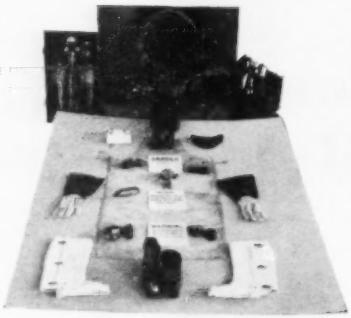
Above, we show a meeting of one of the "Park Gate" Departmental Production Committees which, as described in this article, cover every section of the firm's Rotherham works

trade union representative. Promotion is open to all those who by seniority and ability merit it. Practical implementation of this policy is aided by the company's training and apprenticeship schemes.

Comprehensive Plans

These cover craftsmen, technical and production staffs, and commercial and clerical staffs; a scheme for the training of junior operatives is starting shortly. Each scheme has an Advisory Committee, composed of representatives of management and workers under the chairmanship of the Staff and Labour Superintendent, which advises the company on all matters affecting training. These committees interview applicants for training; advise regarding nomination of a "parent" for each trainee (a "parent" is an adult employee in the department who keeps a fatherly eye on the trainee and helps him in dealing with matters of personal interest); examine trainees' progress reports; advise on the allocation of trainees in the various departments for practical work; interview those not making satisfactory progress to determine whether training shall be continued.

Trainees are under the control of the department in which they are working, subject to general supervision by the Youth Officer, and monthly progress reports are submitted by the head of the department to the Advisory Committee. Trainees are also required to attend the appropriate part-time day or evening classes and pass their examinations.



Display of Safety Equipment in one of the Park Gate Workshops

Young employees of outstanding ability may be selected for more advanced courses of training to fit them for senior or supervisory positions in the organisation, and are given every encouragement by the company to study for a University degree or other professional qualification. It is true to say that this company provides a "ladder" of promotion by which any employee with the necessary ability and hard work can climb from the bottom to the top. In fact, most of the senior positions, including those of three directors, are now filled by the company's own trainees.

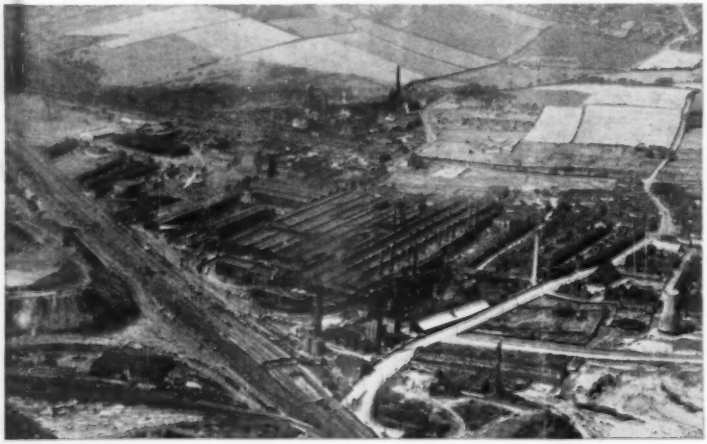
Works Committees

One of the main "props" in the building of good labour relations is joint consultation. This company formed its first Works Council in 1935, comprising twelve representatives of management and twelve of workpeople, under the chairmanship of a management or workers' representative during alternate years. In 1941, however, the company decided that each department or group of workers must be adequately represented, and it was decided that each department or group should have a separate Production Committee.

These Department Production Committees consist of management and workpeople's representatives. The workpeople's representatives are elected annually in trade union branch meetings, one-third of the members retiring each year. The committees normally meet at two-monthly intervals, acting in an advisory capacity and making recommendations to the management on problems other than wages questions which are dealt with through the trade union machinery of negotiation. The workpeople's representatives of each Department Production Committee elect one of themselves to act on the Operatives Works Committee. This Operatives Committee normally meets at quarterly intervals to receive and consider reports from the Department Production Committees, to decide which items are to be raised at the Works Council and to consider items referred to it by the Works Council.

The management supplies secretarial assistance, but no management representatives are present at meetings so that operatives have absolute freedom of discussion. The Committee elects seven of its members as the workpeople's representatives on the Works Council and also elects representatives to committees dealing with welfare matters, including Suggestions Scheme Committee, Hospital Services Committee, Works Savings Committee, Fire Services Committee, etc.

In addition to these Departmental Committees, eight Staff Production Committees were formed to cover all staff interests. These include secretarial and accounts offices, drawing office, rolling mills staff, production foremen, maintenance foremen, managers and engineers. Representatives on the Staff Production Committees are elected by the staff of the various sections concerned. In most cases the number of electors is small and elections are therefore arranged by current members of the respective Staff Production Committees. Election of members to the two foremen's committees is mainly



Aerial view of Park Gate's Rotherham works where nearly 4,000 persons are employed

automatic by virtue of the positions held. The Joint Works Staff Committee consists of members elected from the various Staff Production Committees. This functions in the same way as the Operatives' Works Committee, electing representatives to the various welfare committees and one member to the Works Council.

The Works Council consists of seven management representatives, seven workers' representatives, one staff representative, a secretary appointed by the management, and is under the chairmanship of the managing director. The Works Council meets at quarterly intervals and considers mainly production and development problems. A joint subcommittee of the Works Council deals with matters arising from the various welfare committees which range from the Suggestions Scheme to Sports Sections. This committee organisation provides an avenue for the free interchange of views at all levels on all matters affecting the welfare of the organisation and the employees, excluding only those matters which are strictly trade union business, and in the firm's experience it works most satisfactorily. Members of these committees and employees serving the company in some other way besides their normal work participate in the visits to other firms which are arranged from time to time. This is some reward for their efforts, and at the same time a means of increasing their interest in and appreciation of their own work.

There are, of course, many other employee services, such as the excellent canteens, transport arrangements, housing and billeting schemes, sports and hobbies, supply of safety equipment and protective clothing, provisions for the reinstatement of ex-Servicemen and employment of the disabled; all part of the "usual routine." Perhaps the individual items are not impressive, but the sum total makes an impressive personnel programme.

Recent years have shown much time and energy devoted to the search for new techniques for securing good labour relations, and the enthusiasm for "bright ideas" may have overshadowed somewhat the old and tried methods which have been giving results in such firms as this over a period of many years. Probably the secret of their success lies in the very fact that they have indeed become "routine" and are accepted by both management and workers as part of their normal working.

Psychromatics at Port Sunlight

By E. R. SCOTT

Civil Engineer,
Lever Bros., Port Sunlight, Ltd.

THE founder of Port Sunlight, the first Lord Leverhulme, obviously appreciated the effect of environment upon his workpeople when he designed the layout and approaches to the factory, through the model village, with its flower beds and open spaces. The factory itself, although started over sixty years ago, shows that considerable thought was given to the need for good working conditions. The works are well spaced out to allow for a number of grass verges and flower beds, and most of the main buildings are of single-storey construction, with wood-block floors and adequate north-lighted roofs, giving plenty of air and light.

As in many other factories, however, the internal painting scheme of buildings and machines was mainly black-and-white, although in later years some makers supplied them in various colours, and in one or two places in the factory, walls were coloured instead of the more usual lime-whiting. The black-and-white theme was, however, monotonous and liable to cause eyestrain to the operatives, particularly when handling brightly coloured products or packages. On the other hand, the distractions caused by an indiscriminate use of colour could have an even more damaging effect and modern practice is, therefore, to use carefully selected colours founded on scientific investigation. There are certain fundamental principles which are generally agreed, and colour in factories is today considered a scientific aid to good working conditions, reducing eyestrain and fatigue, and therefore gastric troubles, sickness and absenteeism, and increasing general efficiency.

The General Idea Is Based on Congeniality

A secondary effect of the wise use of colour is the general improvement and congeniality of the surroundings resulting from colour treatment, which though incidental is nevertheless present in a well-designed colour scheme.

In preparing a colour scheme for a factory, each section has to be considered on its own merits and all the circumstances which affect vision in each case carefully analysed. There should be no such thing as a "standard colour scheme," as what is correct in one part of the factory might be completely wrong in another and might do more harm than good.

Lighting conditions, both natural and artificial, are one of the principal considerations. Artificial light, particularly fluorescent lighting, can completely upset a colour scheme which is perfectly balanced when viewed in daylight.

An Important Point

The nature of the work performed by the operatives is the next important point, particularly the conditions and position in which they work and the colour of the product which they are handling. This is where the colour experts can prove invaluable by suggesting the correct colours to use on the machines and on the background to give the operatives relief from the colour of the product, thereby reducing eyestrain and its results.

After the war, in Port Sunlight, as in most other factories, there were many years of arrears of painting to be done, and after concentration upon essential external painting it was decided that as internal painting, long overdue, had to be done anyway, it would cost very little more to introduce colours in accordance with modern ideas. It was decided to carry out a scheme on a small scale

and in a shop where there were no complications due to brightly coloured products.

The Beginning

Two years ago, therefore, an experiment was made in the engineering workshop. The walls of this shop had been painted, many years before, in two shades of green, now very dirty, the roof was unlined and the skylights and windows still bore traces of war-time blackout paint. The machine tools were mostly black and the benches and wood-block floor were similar.

The electric lighting was by filament lamps and out-dated, and the general appearance by night and by day was drab and uninspiring.

It was decided to install fluorescent lighting so that colour schemes under consideration had to be viewed with the effect of the new lighting in mind. One machine was painted as a trial in a pale green with the moving parts in a stone colour. The operatives at first were rather sceptical and looked upon the colouring of the machine as a rather effeminate "stunt." However, as the scheme progressed they became more interested and finally very enthusiastic.

The roof was lined and painted in off-white, the side walls which the operatives face were treated in very pale green, eggshell finish, and the end walls in a warm cream. The lower walls up to seven feet were treated with a clear varnish over these colours for protection from dirty overalls, giving only a very slightly darker dado effect.

The machine tools were painted in light green and stone as mentioned, and the electric "stop" control box picked out in bright red on each machine. The inside of guards and fuse boxes were painted in orange, so that if any of these were left off accidentally the fact was obvious from quite a distance away. Legs of benches were painted as the machines, and the floor cleaned as much as possible, with white lines painted in to mark the traffic lanes. The overhead travelling crane was painted in the same colour as the machines, but the hook and block were treated in the "warning orange" colour which was also used in a continuous strip under the live pick-up wires along the wall.

The total effect was a complete transformation from a drab uninteresting shop to a pleasant place of work providing good general lighting without glare, a restful background to the eyes of the operatives and yet made cheerful by the warm colour on the end walls. The bright orange colour which causes a distraction is only visible when a cover or guard is out of position, when a fuse box is left open or when the hook of the travelling crane is low and therefore a source of danger.

The scheme under the fluorescent lighting is very similar and the colours quite distinguishable, but the general effect is somewhat "cooler."

Immediate Results

The immediate effect of this transformation was the noticeable improvement in "good housekeeping" in the shop. The place was kept tidier and the men took more interest and pride in their machines, carefully removing greasy hand marks which formerly would have remained on the black-painted machines as sticky dust collectors.

The whole of this scheme was designed and executed by our own staff—the Civil Engineering Dept. carrying out the design alterations and painting, and the Power Engineering Dept. the modernisation of the electric lighting.

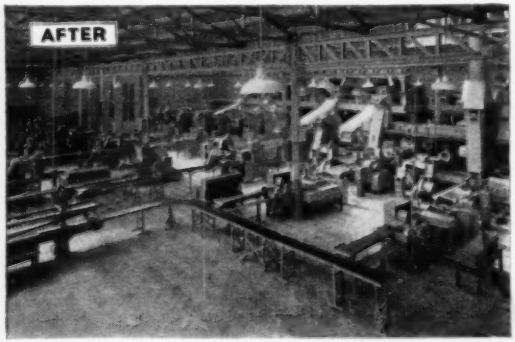
The next scheme to be carried out, also by direct labour, was in the new staff dining-room where, in addition to the painting of the building, the covering of table-tops with green *Formica*, and the installation of two-coloured chairs, several colourful murals were executed by artistic members of the staff.

A Large-Scale Test

For our more ambitious schemes it was decided to invite the assistance of several experts in industrial colour design. The largest scheme completed to date was for No. 4 soapworks covering some 100,000 sq. ft. of floor space, and the work was executed by Holland and Hannen and Cubitts Ltd., and designed by their Psychromatics Section in collaboration with Mr. Robert Wilson, F.R.S.A., Art Director of the British Colour Council.

It is not possible to describe the scheme in detail, as every part of the works was considered on its own merits and consequently the colours used were various. Many different products in several different colours are handled in this section of the factory, and the colours used on the walls, ceiling and machines were all carefully selected to give a pleasant general effect with good visual conditions, and at the same time to cause the least possible eyestrain and distraction to the workers.

Elaborate perspective drawings were prepared of the proposed



Two views—before and after painting—of the "Number 4" Soapworks at Port Sunlight, which show effectively how psychromatics can help to improve working conditions

scheme to illustrate the finished effect.

These drawings were first of all discussed with the appropriate Joint Consultation Committee so that the people who actually work in this part of the works might have an opportunity of making comments or suggestions.

The scheme as presented included suggestions for various colours for the overalls for the operatives, but owing to present conditions it has not been found possible as yet to implement this part of the scheme.

Upon completion the Joint Consultation Committee for this section of the factory were asked to report on the reactions of the workers to the scheme. Approval was unanimous, but it has not yet been possible to ascertain whether the colour treatment has had any direct bearing upon production or absenteeism.

Future Schemes

Messrs. Cubitts have also prepared a scheme for No. 3 soapworks of a similar magnitude. This has been approved by the Committee concerned and the contract has now commenced. The chosen colour scheme for the girls' canteen was designed by Mrs. D. M. Buckland, Colour Advisory Department, I.C.I. Paints Division, and executed by contract. The men's canteen was also recently repainted by contract, the approved design having been made by Mr. W. S. Ferguson, of Leigh's Paints Ltd., Bolton.

There is still a great deal to be done at Port Sunlight, and although it takes much longer to prepare and have approved an elaborate colour scheme as compared with the straightforward painting, the general feeling is that the results justify the spending of this extra time and trouble.

RECENT investigation undertaken by the Principal of the London School of Printing and Graphic Arts into the incidence of colour blindness showed a striking level of defect. Some 472 students were submitted to the "Ishihara" test in which a set of thirty-two prints is used, each print comprising a number of coloured dots arranged scientifically in patterns in such a manner to be seen one way by persons with normal colour vision but differently by others. Of the 472 persons tested, 405 were apprentices and 67 whole-time students. It was found that: 429 were satisfactory, having not more than 3 errors; 7 were doubtful, having between 4 and 10 errors; 36 (8 per cent) were seriously defective, having 11 or more errors.

(Condensed from *Caxton Magazine*, August, 1950.)

TRAINING

— *ITS MEANING?*
— *ITS PURPOSE?*

How far industrial training is merely "accepted," rather than believed in as an integral part of management, can be argued. Here is statement of belief by an expert in industrial education.

QUESTIONS posed by Miss A. I. G. Hewitt (Harold Whitehead and Partners Ltd.), at the September meeting of the South London Region of the Institute of Economic Engineering, under the chairmanship of the Editor, produced a very brisk discussion. While the importance of training was almost universally accepted, the content of such training and the way in which it should normally be imparted were by no means generally agreed.

Miss Hewitt said that training was a most vitally important factor in industry today, yet even now there was abyssmal ignorance throughout industry of what it really meant. Factories where training was properly understood and applied were the exception. "Training" could be defined as the process of adapting individuals to the needs of industry—"conditioning them," as the anthropologists called it. The techniques employed must, of course, depend on the type of person to be trained and the purpose for which the training was intended: one did not give the same type or degree of training to a budding bricklayer as to a budding research chemist with a university degree.

Industrial training could be of two kinds—informal or formal. Of the first she would give as its best definition that of "training by exposure." It had no system and the victim was left to pick up what he could by trial and error from those fellow-workers who might be willing to impart anything of what they knew, including the tricks of the "old hand." Such training could never be satisfactory because:

(a) It was too slow for present-day conditions, since youth's working time was shortened by the raising of the school-leaving age and by the interruption of National Service.

(b) It was expensive; few people realised the concealed cost of training in relation to labour turnover, breakdown of machinery, waste of material and rejects.

(c) It was too "chancy"; there was no certainty that the trainee would be properly taught by this method.

(d) It did not recognise the new conception of a job as working for the community, nor the necessity for social consciousness and responsibility, and therefore the knowledge for carrying out this responsibility was not included.

Formal or "planned" training accepted the theory that responsibility or power demanded knowledge at whatever level it worked. Training, therefore, must be carried out at all levels—for management as well as for the managed—and must be so scaled and graduated as to give each group precisely what it needed. To do this, generally involved a fully detailed job analysis and specification, but here one should note that training needs do not always parallel the lines laid down by the Motion Study experts. The plan must be worked out to give the best *training* results.

People cannot co-operate—a desideratum for industrial harmony—unless they are fully informed. The best known techniques of imparting information must be used, and the greatest care must be taken in the preparation of courses, programmes, time-tables, premises and equipment.

The aims of properly organised industrial education should be not: **to make robots of individuals but to develop industrial democracy through industrial education; and to teach co-operation.**

The history of political and industrial democracy ran roughly parallel but with a considerable time-lag. All over Europe political awareness had come first and only comparatively recently had a similar feeling about the production job become vocal. Today a number of Trades Unions were taking steps to see that their rank and file members were properly trained in their jobs; trained moreover in the "know-why" as well as the "know-how" so that they could play a real part in joint consultation. This was a good sign, but it was also a portent for those managements which so far had ignored or cried down the advantages of having an educated labour force.

Are Incentive Bonuses Good Policy?

HAVE we come to the stage when managements are so baffled in their attempts to affect order and discipline that palliatives in the form of incentive bonuses (additional to normal output bonuses) have to be offered? More and more firms seem to be adopting a defeatist attitude and offering their employees monetary payments as the only way out of their dilemma. Where good management exists incentive bonuses are not necessary. Only where personnel management is weak and supervision poor is an added inducement necessary to maintain production efficiency.

Such incentive bonuses are offered in some firms for good timekeeping, willingness to do any job asked and for co-operation with management in the factory. This relieves management of the responsibility of having to enforce discipline, and removes the possibility of lengthy and wasteful discussions when distasteful jobs come along.

Argument against such incentives is that they are considered substitutes for good management. Where employees find a weakness in management they will turn it to their own advantage. If they find management able to rule firmly but kindly and unafraid of enforcing discipline, employees will think twice about opposing it, especially if their wage rates and working conditions are good.

Those managements which have introduced extra incentives maintain that the added attraction of opportunities for larger earnings encourage good timekeeping and co-operation, with resultant increase in output which benefits both employer and employee. Extra wages paid are only a fraction of the additional sum obtained by the employer through increased production and consequent reduction of overheads.

The Case Against

The case against these incentives, however, is probably the stronger one. Workers accept the terms of engagement which entitle them to a certain rate and production bonus. Why then should they have to be bribed to honour the terms of their contract? Once incentive bonuses are installed and considered a part of the wages agreement other circumstances and situations may occur which will mean that further incentives will have to be considered, until finally, employees will be making more on "extras" than by their legitimate earnings.

Before consideration is given to instituting such incentives, therefore, management efficiency must be investigated, and weaknesses remedied. Poor supervision can be helped by encouraging foremen and others to attend study courses with one of the professional management bodies. Works executives must acquire knowledge of present-day management techniques if they are to carry out their jobs satisfactorily.

(Condensed from *Factory Manager*, September, 1950.)

Bonus Based On Merit-Rating

LIBBY-OWENS-FORD GLASS CO., Toledo, U.S.A., has developed an incentive plan for splitting up a yearly bonus among all members of the field sales-force according to merit rating. In operation since 1942, it has proved of benefit both to the men and the company.

The basic plan calls for the company to set aside yearly a variable percentage (as determined by overall company showing) of the total amount paid in salaries to the field men. (*In* 1949 *it was* 12½ *per cent.*)

No one who has been employed for less than six months is eligible for participation. After this period of service, bonus is computed against salary for the remaining portion of the year, during which the man serves as a member of the field-force. If a man's job changes, his bonus is based on the period of time and salary for each job. No bonus is paid if a man resigns or is discharged prior to the end of the calendar year.

The total amount of bonus paid is not applied equally to each individual, but is distributed according to the merit rating plan, and is based on each individual's rating compared with the average of the group. The salesmen were divided into two groups according to similarity of qualifications for the job. Thus, if the average of Group I in merit rating is 80 per cent, a man with a score of 90 per cent (or 10 over average) is entitled to a bonus of 15.6 per cent of his salary, on the present annual allocation of 12½ per cent. It is worked out like this:

10 × 2 = 20, or double the difference between the man's rating and the average group rating, whether above or below the average. This part of the formula is used to increase the bonus value of a high rating over a low rating. The figures then read: 80 (average of Group I) + 20 = 100. Since the relationship of the 100 score to the group average is 125 per cent, the man is entitled to 125 per cent of 12½ per cent, or 15.6 per cent of his salary. No bonus is paid to a man with a lower rating than 60.

Merit rating is based on an assessment of certain factors considered essential to the job. For example, Group I includes field representatives and district representatives with no other men under them. Factors assessed here include (1) knowledge of the company and its products; (2) ability to plan and organise work and to use time wisely; (3) thoroughness and accuracy of reports and records of calls; (4) relationship with trade and other company employees; (5) initiative and creativeness in presenting products to the trade; (6) interest in and "aggressive" attitude towards job; (7) judgment and commonsense; (8) ingenuity in obtaining reports of competitive activities, prices, etc.; (9) personal appearance; (10) personal financial affairs. Group II which includes "special duty" men such as district supervisors and promotion managers, are rated on their ability to train representatives and on efficient execution of company policy. Merit evaluations are made by regional managers, certain product managers, general managers and the vice-president in charge of sales. Final rating is derived from their combined assessment.

Any Complaints?

If a salesman thinks his rating is unfair he may discuss it with the man who assessed him and receive a full explanation of the judgment. He also knows which specific points need improvement, how he compares with his associates and superiors and how he stands in relation to salary increases or promotion. This gives the man an opportunity to develop himself and to increase his worth to the company.

(Condensed from *Sales Management*, July 15, 1950.)

Apprentices at the Dover camp organised by the North Thames Gas Board with their "Clean Lines" trophy, presented by Miss Shirley May France, the Channel aspirant

"Consult Your Audience"

FIBREGLASS LIMITED employ some 900 people at St. Helens and Glasgow, producing glass wool and textile yarns, nearly the whole of which goes to the electrical industry. Progress has been fairly rapid over the past few years, but as can be expected with an unfamiliar product there have been ups and downs in production. The company felt, therefore, that employees ought to be kept informed of the general policy of the company, its achievements and prospects, and two years ago they produced a booklet entitled "Message from the Board."

By 1950 there were many changes in manufacture, staff and market prospects, and it was decided to issue another booklet. The script was written from briefs supplied by various departments and finally approved by the Board. It was then realised that the audience for whom it was intended had not been consulted at all, and that although it was written by people who knew broadly what the ordinary employee wanted to know, it was easy to make wrong assumptions about other people's thoughts and understanding of words.

It was decided to put a draft before a small committee of employees at each factory, which included a senior shop steward, a foreman and a woman member of the office staff. A brief was prepared for the guidance of the committees which asked such questions as:

Does the booklet make interesting reading?
Is the language simple and clear?
Does it cover the ground?
Do you approve of the straight policy sections on Employment, Tidiness and Friendliness?
Is it too optimistic?

The answers in the main approved the draft, but about thirty suggestions were made for the improvement of language and style, and the paragraph on tidiness was recommended for deletion as it might be construed as "preaching."

The criticisms of language were unexpected and show the value of inviting comments from the audience. There were many examples of words which were quite familiar at management level, but which were said by the committees not to be in the normal vocabulary of employees. There was also strong feeling on the question of style. The draft had been written in a free and easy style to avoid pomposity, but care had also been taken to avoid "writing down" to the audience. Both committees, however, took exception to a sentence which ran: "No one buys Fibreglass for fun, and our increasing sales mean that our usefulness to the community is growing," on the grounds that the booklet was about serious matters and it was disrespectful to be too light-hearted about the wording. Typical advertisements, used side by side with photographs of the finished ship, railway engine or electrical plant to which the advertisement had relevance, were shown and served to indicate what the sales side of the organisation were doing. Great care was taken with type, layout and cover design, the aim being to produce a solid and comprehensive picture of the firm in the best possible way.

(Condensed from *The Manager*, August, 1950.)

Shop Steward Raises Output

UNDER a scheme operating at the General Electric Company's Telephone Works at Coventry, to qualify for bonus, an operator is required to produce a minimum of, say, 50 per week of a particular cable. She receives a certain fixed wage which is paid even if her output is 20 or 30 per cent less than the fixed minimum. In one department operators were not turning out enough to cover their guaranteed wage and certainly not enough to earn bonus. The immediate need was to raise the operator's production to the minimum of 50 units, which meant that some had to double or triple their output and yet receive the same minimum wage.

A shop steward, trained in T.W.I. methods, undertook the temporary job of trying to increase individual output. He took operators in groups of six, commencing with the newcomers and working through to the "old hands," noting particularly wrong or inefficient ways of tackling a job. Each job was broken down in accordance with T.W.I. Job Instruction principles, and every detail explained to the operator so that she could see for herself how she could speed up her own output. As an added interest she was shown around other departments to see her finished work. She was encouraged to offer suggestions for increasing efficiency and generally made to feel that she was treated as an individual.

At the end of ten weeks, twelve of the less efficient operators were earning bonus, and the department showed an overall increase of 20 per cent on output. Another important result was the considerable reduction of rejects. It was noticeable that many of the older operatives, already considered efficient, were anxious to take advantage of this expert advice: in fact the greatest difficulty was to avoid too heavy a demand on the instructor's services.

Nine months after the scheme started output showed an increase of nearly 40 per cent, and many operatives are now averaging from 160 to 200 per cent of their allotted tasks. In addition, the training period for new operatives has been cut from three months to one.

(Condensed from *Target*, June, 1950.)

REPORTED IN HOUSE ORGANS

Advance (Bulmer and Lumb Ltd., and associate firms), records many social and sporting events, as well as production news. Specially delightful is the account of the crowning of the "May Queen," aged 5 years, by her "courtier," aged 3, followed by a tableaux bringing to life the well-loved figures in nursery rhymes. The "Queen" and all other performers were children between the ages of 2 and 5 from the company's nursery, and their audience was composed of mothers, relatives and friends assembled in the canteen.

National Post (National Cash Register Company) reports that as a result of discussions at the firm's Works Council meetings, it was decided to set up Shop Committees. Function of these committees is to discuss the problems of their own shops amongst themselves in an endeavour to find a solution. Failing this, one representative of the Shop Committee represents them at the Works Committee, where the problem is again discussed. If this fails to produce a solution, the matter then goes to the Works Council for decision. In this way, only important matters which have been thoroughly investigated in the preliminary stages, come before the Works Council.

Intercom (Igranic Electric Co. Ltd., Bedford), in an article on injuries and injuty benefits, records that "cuts," "splinters," "lacerations" and "bruises" were increasing. The number of "foreign bodies" in eyes was fairly steady during 1948-49, varying between thirty and forty cases a month. Since the issue of new type goggles at the beginning of the year, however, the number of cases had declined to nineteen in June.

Phoenix Gazette (Steel, Peech and Tozer, Sheffield) reports the opening of the new Medical Services Department, which is claimed to be one of the finest in the country. The Medical Officer stated that although some 65,000 visits were paid to the centre in the course of a year, yet the number of accidents resulting in loss of time were kept down to about 400. He stated that it was intended to undertake research work with the facilities now available.

Sperry Topics (Sperry Gyroscope Co. Ltd., Brentford, Middlesex) reports that members of management, their relatives and friends hired three Dakotas and flew to Jersey for a most successful outing.

Vauxhall Mirror (Vauxhall Motors Ltd., Luton, Beds.) records that a new fire escape tender which has recently gone into service with the works fire brigade was made by the firemen themselves from scrap. Originally a war-time 2-3 ton A.R.P. truck, it was handed over to the men who, working in their spare time during duty watches, completely transformed it.

The Montague Burton Jubilee

FIFTY YEARS' IDEALS REVIEWED

BY WINIFRED D. BROWN

IN 1900 a young man borrowed £100 from a relative and started up in business for himself as a clothier. This year the firm which bears his name—Montague Burton Ltd.—celebrates its Golden Jubilee and the story of those fifty years is recorded in "Ideals in Industry," an advance copy of which, issued for private circulation, has just reached me.

Ronald Redmayne's eminently readable account of half a century of industrial pioneering does not claim to be comprehensive. As Sir Montague Burton himself points out in his foreword, many volumes would be needed to describe in full how the erstwhile rhubarb fields, fireclay works, poultry farms and market gardens of nineteenth century Leeds were replaced by the now-famous Hudson Road Mills Estate; how the Garden factory on the East Lancashire road gave birth to a new community named after the firm which sponsored it—"Burtonville"; or how a site at the junction of New Oxford Street and Tottenham Court Road, in London became the Burton House of today.

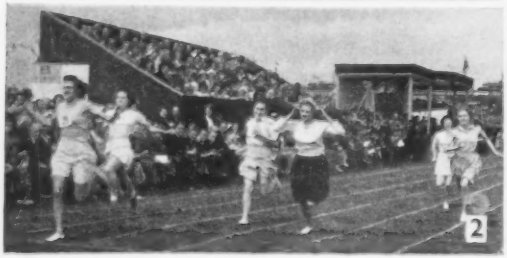
"Apart from demonstrating that a business may have a conscience as well as a counting house, it is hoped that this review will illustrate that the daily round and the common task can be more efficiently performed in a congenial and friendly atmosphere," Sir Montague continues. "Further, it is believed that this record will suggest that there is still a great future for any enterprise in which team spirit prevails and where all concerned are united in a common purpose—the raising of the standard of life by producing merchandise of quality at prices within the reach of the average man . . .

"The provision of proper working conditions and reasonable amenities and the production of better clothing for more people at lower prices have always been major considerations . . ."

Sir Montague also pays tribute to those who have helped in the building up of this mammoth enterprise, including Miss Elizabeth Arnold, the firm's Welfare Officer, who this year celebrates her own Silver Jubilee of service, and who—in her employer's words—"has directed and controlled the welfare activities at Hudson Road Mills with discretion and profound human understanding."

It was Miss Arnold's modesty and reluctance to talk about her own achievements, in fact, that brought this admirable account of her firm to my notice. For my request for "a story" on her twenty-five years of service brought a quiet, but firm refusal to have any publicity for herself; instead, I received this little red book, and though her name appears seldom in its pages, the story of the welfare services recorded therein is itself a tribute to her work.

Throughout his industrial career,



1. Leeds' Lord Mayor opens new Jubilee Playing Fields
2. Final of a woman's race at Jubilee Sports
3. Lady Mayoress with one of the prizewinners

Sir Montague has consistently preached the doctrine of high earnings and good working conditions. Low wages, in his opinion, are "false economy." His business has been built up on principles of regular work, good pay, proper working conditions, and sympathetic understanding between management and worker. The result is a factory which has been described as "one of the show-places of Europe."

Collective Bargaining

Montague Burton's organisation was among the first to recognise the value of "collective bargaining" and to demonstrate its willingness to discuss industrial problems with its workers' representatives. By modernising production methods—and so improving the quality of its workmanship—and by consistent efforts to raise the tailoring industry from the level of a "sweated trade" to a front-rank one it afforded an object-lesson which has been studied closely both by industrial economists and social students.

"Ideals in Industry" is more than the history of an individual firm. It embodies much of the history of Leeds itself—home of the clothing industry; it embraces much of Sir Montague's own life-story—for the firm, and Sir Montague are complementary to one another; and it is inseparable from the history of industrial progress—and particularly of industrial welfare services—in this country during the present century. For the reader who is intimately concerned with industry it makes fascinating reading; while even the layman cannot fail to be enthralled by it.

On October 9, 1934, H.R.H. The Princess Royal opened "The New Canteen" at Hudson Road Mills. Designed to seat 8,000 workers at a single sitting, this hall—with its seventy-five pillars—was the successor to two earlier canteens, each of which, in turn, had been regarded as proof of a new, and more "human" spirit in industry.

The first, built in 1922, seated about 2,000. It soon proved too small and was replaced by a larger dining-hall for 4,000. The "New" canteen—the largest in the world at the time of its opening—includes a "quick-service" counter, stretching along almost the whole of its northern side, which can serve 1,000 cups of tea a minute.

The kitchen equipment is of the most up-to-date type obtainable. Everything has been designed to enable the cooks to do their job efficiently, swiftly and with the minimum of fatigue. Electric mixing machines can deal with 5 stones of flour at once—while the electric potato peeler disposes of "spuds" at the rate of 1 lb. a minute. Two electric dish-washers account for 3,000-4,000 dirty pots an hour.

Kitchens, as well as the canteen, are bright, airy and colourful. Shining chromium-plate and vitreous enamel are set off by quarry-red floors.

A Full Welfare Service for Workers

The Welfare Services are equally well "housed." The firm claims to have anticipated the 1948 National Health Scheme by a quarter of a century. Through membership of its Sick Benefit Club, employees can enjoy benefits which are now supplementary to, and independent of, official schemes. This club now has over 3,000 members who pay subscriptions varying from 2d. a week for learners to 6d. a week for men.

The well-equipped surgery, in charge of a fully-trained nurse, is open at all hours, while the welfare department also offers dental and optical facilities. A qualified chiropodist treats foot troubles for a nominal fee—any excess of cost being borne by the firm.

There is also a sun-ray clinic, where for 2s. workers can have a course of treatment. Learners enjoy both sun-ray and dental treatment free of charge.

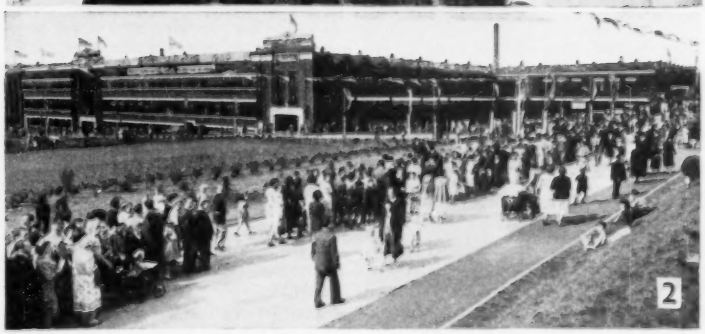
The firm runs its own Savings Bank, and deposits up to £500 earn an interest of 5 per cent.

Started originally as a branch of the League of Nations Union—now the United Nations Association—this side of the firm's activities has a membership of 6,000. Speakers of national and international repute have addressed its monthly lunch-hour meetings.

Sport is well catered for, and the twenty-five acres of playing fields include cricket, football and hockey pitches, as well as hard and grass tennis courts. The firm's swimming clubs have the exclusive use of a local bath on four nights a week, and a fully qualified coach is in attendance.

Coaches are also available for physical training in the firm's gymnasium, and for cricket and hockey.

To deal adequately with every section covered by this book would, however, require a book in itself. I hope I have said enough to convince you that "Ideals in Industry" is well worth a place on any bookshelf.



1. Municipal Authorities take tea with directors and executives
2. General view of the playing fields on the Jubilee day

Dutch miners-to-be march from class to class under their "baas" or leader

Training Holland's Future Miners

By H. DENNIS JONES

HOW many industrial concerns can boast a scheme of training for young entrants as carefully devised as that of the Dutch National Coal-mines? Like our pits, the Dutch are short of workers and cannot be over-choosey; nor have they money to spare. Training must, therefore, be speedy, economical and well within average mental scope. At the same time it must turn out boys equipped with a high degree of technical knowledge and physical fitness, and with the considerable moral qualities that mining demands.

The three-year syllabus now used to achieve this owes much to Dr. F. J. Th. Rutten, Holland's present Minister of Education, and an internationally-famous educational expert. When the Germans closed the mines' training schools during the war a golden opportunity was offered of overhauling the whole system. On his report in 1942 was based the present scheme, put into operation in all four of the big nationally-owned collieries as soon after the liberation as conditions permitted.

After preliminary aptitude tests boys between 14 and 17 enter the O.V.S. group (*Ondergrondse Vakschool* or Underground Vocational School) attached to the mine nearest their homes. None lodge in hostels; it is considered preferable to avoid separating them from normal home surroundings, even though this means their travelling as much as thirty-five miles to and from school by special mine bus each day.

Early Training

The first year's syllabus consists of theoretical instruction in the fundamentals of mining, work in the colliery shops and the practical application of theory through "teamwork" (*see below*). In addition, there is a wide range of activities resembling scouting known as "troopwork," lectures on hygiene and first-aid, occasional discussions of current affairs, some religious instruction, nature study, with practical gardening periods and, of course, physical training and games. The year winds up with a week in camp.

This probably sounds a strange mixture. Everything, however, has a definite place and purpose in the scheme. Further, its methods are carefully suited to the boys' mentality as well as to the training objectives.

It is recognised, for instance, that lads just out of school are hardly fit to be thrust right away into the complicated, impersonal routine of a huge industrial plant. So, throughout this first year each "troop" of twenty-four boys has its own "baas" (boss—but the word has a friendlier flavour in Dutch, more like "gaffer"). He is a young and proficient miner, of impeccable character and specially trained for his duties. To his charges he is father-confessor and friend, as well as instructor and foreman, and except during mining-theory lessons is never parted from them.

This does not, however, involve any coddling. The lads work a normal week of forty-six hours, including meal breaks, baths, etc.—six hours on Saturday, incidentally—and have only the usual mine holidays.

Theory and Practice

Of the actual teaching, "theory" occupies two hours most mornings. Instead of straightforward lectures each lesson is very carefully designed to start from some simple, practical object known by sight to every boy and a natural focus for his curiosity—a coal fire, for instance, or a ventilating shaft.

Four afternoon periods—two hours each—are spent weekly in the workshops. Here the boys learn the elements of bricklaying, carpentry,

mechanics and electricity, all of which will, of course, be essential when they start work underground.

"Teamwork"

Occasional periods are given to "teamwork." As its name implies, this trains the boys to work in teams —the way all underground work is carried out. The troop is divided into four, and each section of six has its own leader and its own animal badge. What they do is to put into practice things previously dealt with in theory —building a model derrick or winding gear, for instance, or plotting a graph.

Good workers usually make good citizens, and vice versa. The two qualities cannot be separated. So the first-year syllabus includes "current affairs" periods, religious instruction and nature study. This last not only provides a balancing ingredient of non-mining interest, it also starts the boys off on a hobby which is cheap, satisfying and extremely valuable in character-formation—one, too, which can easily be practised in the exceptionally fine countryside round the South Limburg pits. A certain amount of folk-singing and drama is also included under "troopwork."

Obedience, loyalty and patriotism are inculcated along somewhat "old-fashioned" lines; each day begins with a ceremony of hoisting the flag, and one of the first things every youngster learns is to salute and march smartly. Early on he makes a solemn promise to be trustworthy, helpful, obedient and tidy, and to live according to the "O.V.S. Law." In its ten clauses this enjoins, among other qualities, honesty, chivalry, faithfulness to God, parents, superiors and country, cheerfulness in adversity, and obedience without grumbling.

Physical Training

To round off the course 1½ hours each day are occupied by physical training and games. Every lad has to reach fixed "standards," raised every quarter and ending at quite a high level. He starts, for example, by running 60 metres in 10 seconds and walking 10 kilometres in 2½ hours, including rests. In the last quarter he has to run 100 metres in 15 seconds and walk 20 kilometres in 4 hours. Many of the exercises—swimming 20 metres fully clothed, climbing ropes to a set height, walking fixed distances along narrow tree-trunks and the like —require considerable self-confidence.

(*Concluded on page* 186.)

Works Film Service

Factory Quiz

—CONCLUDED FROM LAST MONTH

"What films should a beginner make?"

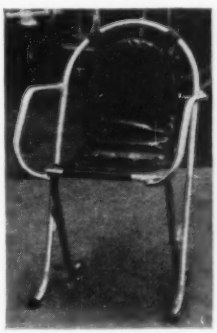
Firstly, before asking this question the welfare officer should make up his mind why he wants to make films and for what purpose he proposes to show them. It is a waste of time and money just to wander around the works taking "shots" at random; a works film, however short, must have an objective. Let us suppose that a particular works has its own first-aid and works safety problems and the welfare department feels that ordinary lectures do not provide enough illustration for the purpose of efficient instruction. A film is the obvious answer, but the firm does not want to go to the expense of sponsoring a film, or films, through a professional film unit.

Here, then, is an opportunity for the keen welfare officer to start his film-making, assuming that he and his assistants have mastered the elementary principles of the use of the camera and its accessories. Let this first film be a simple, silent, instructional film which tells its story in a series of clear, step-by-step pictures; no fancy camera work and no attempt at bringing in anything but the facts that need illustrating.

Before starting to work on the film, get down to a serious discussion with the works executives who have an interest in the work of the departments to be featured in the film. Prepare a "treatment," that is a short description of the proposed contents of the film and what it aims to illustrate. Then follows the writing of the "shooting script," which sets down in writing each scene in order of appearance on the screen. The script gives every little piece of detail, describes the time of shot required and is in fact the complete working plan.

Select the members of your film unit with care, and give each member a definite job to do. The man to write the script should have some literary ability; he is probably to be found in the publicity, or public relations department. The cameraman should have a sound knowledge of photography and be a member of the local Film Society; one of the works electricians should certainly be a member of the unit and the welfare officer should take on the duties of producer and general co-ordinator of the work of preparation, editing and presentation.

Apart from simple instructional films, welfare officers should not overlook the production of a short monthly works newsreel. This type of film does an excellent job in creating good works relations.



A "Sebel" stackable armchair, metal-framed with upholstered seat and back

A works seat with locker for personal belongings (*Everitaut Ltd.*)

Another "Sebel" chair, suitable for rest-room or canteen-lounge use

(*See "Seating" overleaf*)

From the date of this issue seating for workers wherever possible becomes compulsory and factory "occupiers" are responsible for seeing that adequate provision is made. Illustration shows women drillers at the Birmingham works of Tufnol Ltd. using adjustable works chairs supplied by Evertaut Ltd.

Seats for Workers Are Now Compulsory

BASIS of this month's Factory Seating legislation was the Report (I.H.R.B. No. 14) which stated:—

"The first thing to be considered is how far an operation which is usually done standing can be done equally as well sitting, and how far an operation that is done sitting can be equally well done standing. The body is sure to become unnecessarily tired if it remains the whole day in one position, either sitting or standing. If the operation cannot be done in both positions, sitting is preferable to standing."

From this, Section 6 of the Factories Act, 1948, was developed and it is this Section which operates from October 1st. Sufficient warning was given to permit "occupiers" of factories to make the necessary arrangements and as from the due date they will be held liable for any failure to comply with the Act. The main Sub-Section provisions are:—

"(2) Where any employed persons have in the course of their employment reasonable opportunities for sitting without detriment to their work, there shall be provided and maintained for their use suitable facilities for sitting sufficient to enable them to take advantage of those opportunities.

"(3) Where a substantial proportion of any work can properly be done sitting, (a) there shall be provided and maintained for any employed person doing that work a seat of design, construction and dimensions suitable for him and the work, together with a footrest on which he can readily and comfortably support his feet if he cannot do so without a footrest; and (b) the arrangements shall be such that the seat is adequately and properly supported while in use for the purpose for which it is provided.

"(4) For the purpose of the last foregoing sub-section, the dimensions of a seat which is adjustable shall be taken to be its dimensions for the time being adjusted.

"Section six of the Act shall come into force on the first day of October, nineteen hundred and fifty."

Two factory chairs by Leabank Chairs Ltd.—above an adjustable stool with footrests . . .

. . . and a chair of similar basic design with variable backrest and adjustable seat

What Is Required

It will be noted that the Act provides for "suitable" seating, for chairs or stools, that is, that enable the worker to perform his task with efficiency and in comfort. This means that any ordinary chair or stool will not do and that to some extent at least the accommodation must be "tailored" to fit the individual worker. It must be neither too high or too low, give adequate support to the back wherever possible and provide footrests of sufficient size to allow of more than one position being adopted. For work at fixed benches this means a good deal of adaptation, and it is here that the fully adjustable

(*Concluded on page* 187.)

M.o.L.—A Year's Work

1949 SAW the end of the "unwinding process." Millions of men and women were released from war production during 1946-1948, and by 1949 man-power had been adjusted broadly to peace-time needs. Although there was still need to canalise the flow of labour into important and undermanned industries, the emphasis in the placement of labour was to satisfy the employer by sending him the kind of labour he wanted, and the worker by finding the job best suited to his capabilities and wishes.

During the year the Ministry filled 4,045,009 vacancies for adult workers, 488,362 of which were in "first preference" employment, plus 461,059 vacancies for boys and girls under 18 years of age.

The *Youth Employment Service* gave advice to 453,000 school-leavers and placed 234,000 of them.

Unemployment during 1949 continued at about the same level as for 1948, varying according to seasonal trends from 375,700 in January to 243,000 in July, and 330,300 in December. Of the total number unemployed in December about 133,800 were in development areas and nearly one in three had been idle for more than six months; the report indicates the progress made towards remedying this situation.

Resettlement problems decreased and in June the Resettlement Advice Offices were closed down, but 431 cases were dealt with under the Reinstatement in Civil Employment Act, and there were 7,524 applications for assistance under the Interrupted Apprenticeship Scheme.

Training Schemes

Awards under the Further Education and Training Scheme totalled 16,875, and Resettlement Grants were authorised in 428 cases. *Vocational training* courses were completed by 11,318 men and women during the year, about half of whom were disabled. Under the T.W.I. scheme 18,364 industrial supervisors received training in Job Instruction, 16,637 in Job Relations and 8,731 in Job Methods, and by the end of the year about 2,400 firms had adopted the scheme.

Disabled persons who registered voluntarily totalled 27,000, bringing the total register to over 935,000 persons. The Ministry placed some 216,176 in employment, and seventy-two "Remploy" factories employed some 3,900 severely disabled persons under sheltered conditions. Total number of unemployed disabled persons at December, 1949, was 64,200, as compared with 70,320 at the end of 1948.

By the end of 1949 about 80 per cent of the 20½ million workers employed in the industries and services of Great Britain were covered either by voluntary or statutory *negotiating machinery*. In 403 cases trade disputes were settled by agreement between the parties; the Industrial Court made forty-eight awards; forty-nine cases were referred to single arbiters; the Civil Service Arbitration Tribunal made sixteen awards; under the Conditions of Employment and National Arbitration Order 539 disputes were dealt with, 258 being settled by arbitration and 171 by other means, leaving 110 cases in course of action. The number of cases dealt with by the National Arbitration Tribunal 247 was the largest since the end of the war.

Interest in joint consultation in industry was stimulated by the arrangement of conferences, lectures and discussion groups. The Ministry's *Personnel Management Advisory Services* reported a continued growth of interest on the part of industrialists in the modern concept of personnel management and its relevance to the development of good industrial relations. Many enquiries were received from firms on personnel problems and at least sixty-two firms set up new personnel departments during the year, while many others extended the scope of existing departments. *It is reported that many firms found difficulty in securing adequately qualified people to fill these posts.* Advice was also given to many smaller establishments where the setting up of a specialised personnel organisation could not be justified.

The number of *Wages Councils and Boards* remained at sixty Wages Councils and five Catering Boards; sixty-five orders were made fixing or varying minimum wage rates or paid holiday allowances. The Ministry's Wages Inspectorate made about 36,000 inspections and examined the wages of nearly 238,000 workers. As a result, arrears of wages were paid by 8,715 establishments to 22,287 workers.

The Report also deals with international labour relations, outside welfare of workers, organisation of the Ministry of Labour, etc., and contains comprehensive appendices and index.

Dust and Fumes Research

THE Joint Iron Council, in association with the Council of Ironfoundry Associations, has decided to intensify work on the problems of dust and fumes in ironfoundries, and to provide an advisory service on how these may best be dealt with in foundry practice. Close collaboration is being maintained with the Joint Standing Committee on Conditions in Ironfoundries set up by the Factory Department of the Ministry of Labour.

ABSENTEE ANALYSIS

ABOUT 900,000 people are absent from work each day in Britain owing to sickness or injury, according to figures published in the August issue of the *Ministry of Labour Gazette*. The total number of persons in civil employment is 22,350,000, so that absenteeism due to sickness and injury averages between 4 and 5 per cent. The table below shows the numbers absent through sickness and industrial injury during the period June, 1949, to July, 1950.

	Sickness	Industrial injury
1949		
June 21	811,700	60,600
July 19	793,200	61,700
August 16	795,900	59,800
September 20 ...	837,100	65,600
October 18 ...	883,700	66,500
November 15 ...	923,400	64,300
December 20 ...	848,000	58,300
1950		
January 17	978,500	63,900
February 21 ...	1,080,700	67,300
March 21	1,074,600	66,400
April 18	968,600	65,600
May 16	883,600	61,100
June 20	830,800	60,700
July 18	795,400	60,800

Labour Turnover Report

BRITISH Institute of Management is studying reasons for the continued high rate of labour turnover in industry. Management is still faced with an abnormally high movement of labour in districts where workers can move from job to job without changing their place of residence. This results in much waste of time and money spent on training, and is a matter of serious concern to employers. The Institute, therefore, undertook to collect statistics from firms in order to determine trends in and reasons for labour turnover rates.

The analysis for the second half of 1949 shows that, contrary to a popular belief that small firms can maintain better labour relations and consequently lower labour turnover rates, the turnover rate tends to fall as the size of the organisation increases. Statistics also show that a high proportion of men resign for works reasons, and while such resignations may not be the fault of the management, this indicates a field for investigation and action by personnel management staffs.

Out of every 100 men who leave their jobs twenty-four give personal betterment as their reason, ten express dissatisfaction with their jobs, six are discharged as unsuitable and thirteen leave because of redundancy; of the remainder, twelve give no reason. Out

of every 100 women, seventeen leave for domestic reasons; twelve for personal betterment; twelve through illness of accident; twelve through dissatisfaction with the job; five by marriage; four are discharged as unsuitable; and nine through redundancy; only 4.4 give no reason for leaving. Redundancy is higher among men than women workers.

There is evidence that large firms offer more security of employment than smaller ones, which are less able to provide alternative work and less able to carry workers when production slackens.

AN interesting account of how a doctor reorganised the clerical work of his practice with the help of motion-study techniques appears in the *British Medical Journal*. An investigator observed and charted the activities of the doctor and his secretary in planning a day's round and in keeping records of his visits. By eliminating obsolete routines, rearranging the work that remained and designing equipment to simplify it, the essential work was done more quickly and efficiently. Records were always kept up-to-date, and from cards in the rack it was possible to find the doctor when he was on his rounds.

Mr. and Mrs. Malcolm Hawthorn, who between them have worked for 100 years with the Greengate and Irwell Rubber Co. Ltd., are now united in retirement. Mr. Hawthorn left in 1946 after 46 years' service, and Mrs. Hawthorn, at 69, now joins him in a well-earned rest with a score of 54! *(Photos: Kemsley Newspapers Ltd.)*

British Association Meeting

Views on Industry

THE Birmingham meetings of the British Association heard papers which ranged over a wide field—from the destruction of pests to "The Birth of a Business Man"; from plant classification to wages—and rather more time than usual was devoted to industrial questions.

Mr. J. J. Gracie (*G.E.C., Witton*) said that there was no logical reason why workers should not have a twenty-hour week with every afternoon and week-end free. The chances of achieving this depended upon raising productivity standards, and as incentives to workers he suggested not extra payment, but longer holidays, free travel abroad, further education and provision for cultural activities of various kinds. Management approach to productivity must be to regard its continual improvement as the most vital prerequisite of our industrial survival.

The "Unfair" Wage

Prof. P. Sargant Florence (*Birmingham University*), pointing out the unattractiveness of some jobs, suggested that an "unfair wage" was needed, not the "fair wage" usually advocated by employers and trade unionists. It was essential that labour should move into the export industries. There were far too many railwaymen and shopkeepers at present, and too few textile workers and too few caterers dealing with tourist trade. Official man-power targets were woefully missed owing to lack of mobility of labour. Economists might think of the wage level as the prime mover, but Adam Smith also discussed honour, hardship, dirtiness, ease of learning, inconstancy of employment, and improbability of success, among the circumstances "which make up for a small pecuniary gain in some employments and counterbalance a great one in others." Psychologists, though paying lip service to the incentive power of wages and methods of wage payment, in practice neglected the subject. A balanced enquiry should not only weigh factors in isolation, but should see whether economic factors, plus socio-psychological factors, such as changes in supervision, might not increase productivity more than the sum of each factor taken separately.

Trained Workers

Sir Ewart Smith (*I.C.I. Ltd.*), speaking on higher technical education in relation to productivity, urged an increase in our overall national productivity of not less than 5 per cent per annum for many years to come. All the evidence indicated that to achieve this there would have to be a similar increase in the output of trained personnel. There was a strong connection between industrial efficiency and the supply of man-power trained, and used, to apply the ever-growing mass of scientific knowledge to productive ends. In comparison with the inter-war years, the output of scientific and technical personnel from universities had been doubled, but the national interest demanded a further and steadily continuing expansion of facilities for training in the applied sciences, particularly to graduate and post-graduate level. After referring to the increased productivity per head in the United States, Sir Ewart said that the difference in productivity was the basic reason for the economic unbalance between the two countries. The British worker was not behind his American counterpart in innate ability, or energy, provided he had the proper training and leadership; nor were we behind in the production of fresh fundamental knowledge as a result of research and invention. But we were inferior in the relative numbers of those trained in applied science.

Labour Turnover

Dr. Baldamus (*Birmingham University*) reported on an investigation undertaken by the University into labour turnover. Economists suggested that a high labour turnover was due to inefficiency in management, but he suggested there were subtler factors. In one group of factories it was found that labour turnover was lowest in the highly skilled crafts, and in jobs where the period of training and cycle of operation were longest. Dr. Baldamus stated that factors such as the desire to work comfortably, to avoid strain and to reduce effort to keep going, were stronger than the desire to earn more money. Any condition that either increased or reduced strain, however trifling it may appear to the outsider, was extraordinarily magnified in the mind of the worker. This explained why even slight variations in the type of work affected output, absenteeism and labour turnover.

Incentives

A similar point was made by Mr. R. Marriott (*Medical Research Council*), who stated that while the pecuniary incentive still had the greatest influence on the average worker, other factors were assuming an increasingly important rôle. Management skill in handling human relations had a direct effect on productivity, and in the long run success was dependent upon the understanding, enthusiasm and co-operation of workers, supervisors and managers.

"The Perfect Manager"

Ten qualities essential to the "perfect manager" were listed by Mr. D. H. Bramley, head of the Department of Industrial Administration, Birmingham Central Technical College, and Mr. A. M. B. Rule, principal of Birmingham College of Commerce. These are:

High standards of integrity and loyalty;
Intellectuality;
Courage;
Imagination;
Initiative;
Acceptability to others;
Versatility;
Optimism, even in adversity;
A positive and co-operative attitude; and pertinacity.

T.U.C. Reject Wage Freeze

OUTSTANDING decision taken by the eighty-second annual Trades Union Congress held at Brighton last month was the rejection of the General Council's wage restraint policy. In his speech to Congress, the president, Mr. H. L. Bullock, stated that although the General Council had been compelled to urge wage restraint, adjustments in wages had not ceased since the end of the war, and there had never been any question of suspending normal negotiations, but a new cycle of claims was a different matter.

Many members had a basic wage of less than £5 a week, and it was only right that an effort should be made to improve their position. Workers of all grades were feeling the pressure of rising prices, but it was impossible to get something for nothing from any country with which trade was carried on. Such easements as were claimed for workers must be based on an objective and reasoned judgment of the country's situation, and any rash or irresponsible action on a large scale by the trade union could undermine the British workers' present living standards. The T.U.C. had played a full and creditable part in co-operation with the Government, and although the claims of some sections of industry had not been reasonable or practicable, most trade unionists had shown balance and understanding.

The General Council's report on wages policy, recommending the continuance of modified wage restraint, was rejected by 3,898,000 votes to 3,521,000. There was also pressure from a section of the delegates for the revocation of the National Arbitration Order so that workers could press their claims more effectively, but this was defeated by 5,166,000 votes to 2,423,000. A resolution calling for the immediate implementation of the policy of equal pay for equal work was passed by a majority of 2,123,000.

Health and Safety

Concern for the lack of adequate statutory provisions for the health, welfare and safety of people employed in offices and places of work not covered by the Factories Acts was expressed in a resolution submitted by the Association of Engineering and Shipbuilding Draughtsmen urging the Government to provide early legislation on the lines of the Gowers Committee report, and was carried unanimously. The delegates also unanimously approved a resolution urging the General Council to press the Government to broaden the national insurance Industrial Injuries Act to cover all industrial injuries instead of limiting benefit to injuries sustained by accident and due to prescribed diseases. In the course of discussion, delegates pressed for the implementation of the Garrett Report on foundry conditions; the prohibition of the use of poisonous sprays in agriculture; and the abolition of outworking which often involved excessive working hours and the use of child labour.

The "Over Forties"

A resolution calling for greater consideration in employment for the "over forties" was moved by the Association of Supervisory Staffs, Executives and Technicians, and carried unanimously. The mover stated that men in the forty to sixty group could give to industry a wealth of practical experience which could not be possessed by the younger men, and urged the Government and employers' organisations to utilise the experience and training of these men.

Lord Citrine, chairman of B.E.A., spoke to Congress on the future of the nationalised industries and the part which trade unions could take in their development. He stated that one of the great purposes of nationalisation was to produce happy men and women engaged in those industries. In the realm of consultation the position had been reached when the trade unions claim to make a constructive contribution was being tested.

The Prime Minister addressed Congress on the demands of the new defence programme, and the need for some readjustments and sacrifices, and appealed to trade unionists to co-operate in every way possible.

WAGES NEWS

ENGINEERS.—After hearing details of proposals put forward by the employers as a basis for resumption of wages discussions, the union's annual conference agreed to ask its executive to begin negotiations as soon as possible. While no figures were mentioned, the proposal implies increases for all workers on time rates, both skilled and unskilled, and a corresponding increase for piece workers on the minimum percentage guarantee. The higher paid piece workers would not benefit directly, except on overtime, and the amount of increases will depend upon the agreement reached during negotiations. This new basis will take the place of the previous claim for an all-round increase of £1 per week put forward by the unions, the rejection of which led to the reporting of a dispute to the Minister of Labour, after a poll amongst the unions decided against strike action.

GAS.—The Gas Boards and the Confederation of Shipbuilding and Engineering Unions have agreed to an increase of 1½d. per hour in the scheduled rates of maintenance men employed at gas works. The union's original claim was for an increase of 4½d. per hour.

HAIRDRESSING.—The Hairdressing Undertakings Wages Council have given notice to the Minister of Labour of their intention to submit proposals for an increase of 5s. a week in the statutory minimum remuneration to operative hairdressers, chargehands, managers and manageresses employed in gentlemen's saloons only.

RAILWAYS.—The Railway Executive has rejected the claim of the National Union of Railwaymen for an all-round 10 per cent wage increase, that of the Railway Clerks' Association for a 7½ per cent increase and that of the Associated Society of Locomotive Engineers and Firemen for a 15 per cent increase.

Meeting in London before leaving on a tour of Dutch industries organised by the Industrial Welfare Society the above were snapped by P.M.'s cameraman: (*From left to right*) **H. G. Powis (Guest, Keen and Nettlefolds (Midlands) Ltd.); Miss C. M. Ferguson (British Insulated Callender's Cables Ltd.); W. Bree (Industrial Welfare Society); Miss O. D. Spicer (Knowles Ltd.); G. T. Britton (Dowlais Factory, I.C.I. Ltd.); H. James (Courtaulds Ltd.); Miss B. Foyle (Boxfoldia Ltd.); Miss F. Hornbrook (Walter Pollard (1923) Ltd.); A. M. Cowie (Kirklees Ltd.)**

Engineers' Conciliation Machinery

ANNUAL conference of the Confederation of Shipbuilding and Engineering Unions held towards the end of August decided unanimously to give notice to end the conciliation machinery in the engineering industry, in order to press upon employers new machinery which they (the employers) believe would interfere with managerial rights.

Existing conciliation machinery was adopted in 1922 and the unions have always held that they accepted it under duress. They have made several unsuccessful attempts to amend it. Last year the Confederation submitted to the employers new proposals which included the establishment of a joint central council with equal representation whose functions would be:

To secure joint action between employers and workpeople for the development of the industry as a part of national life and for the improvement of the conditions of all engaged in it;

Regular consideration of wages, hours and working conditions;

Consideration of measures for regularising production and employment;

Consideration of existing machinery for the settlement of differences;

Inquiries into special problems of the industry, including the comparative study of the organisation and methods of the industry in this and other countries.

The employers held that existing machinery was working satisfactorily and that the new proposals introduced a number of managerial considerations on which there could not possibly be divided responsibilities.

The conference also decided to insist upon the conclusion of negotiations for a new wages structure, negotiations for which have been going on intermittently for five years, by directing their executive to fix a date, after which, if no agreement was reached, the matter would be referred to a court of inquiry.

Incentive Plans for Builders

INCENTIVE schemes operated by local authorities engaged on new housing work have in the main increased output, reduced labour costs and raised the men's wages, reports a survey undertaken by the Ministry of Works and the Ministry of Health. It was confined to new housing schemes because these contained most of the work undertaken by direct labour. Out of ninety-six local authorities operating incentive schemes, eighty-three estimated that schemes had increased output, the highest estimate being an increase of 43 per cent. Reduction of labour costs was achieved by eighty local authorities, the others being unable to give an opinion. In some cases reductions were claimed to be as high as 25 per cent, representing £100 per house, while in some trades, specially brickwork, there was a saving of up to 45 per cent.

Bonus Details

Increased earnings for the men were shown by eighty-six authorities. Details of bonus earnings given by sixty-seven authorities showed bonus varying from 1d. to 1s. 7d. per hour, and from 2¼d. to 1s. 8d. per hour in particular trades. Craftsmen generally earned from 3¼d. to 6¼d. per hour bonus, while labourers earned between 3d. and 5¼d. Average bonus paid on sixty-seven schemes was 5d. per hour, equivalent to between 15 and 20 per cent of basic wages.

The figures refer only to time during which men were engaged on bonus work. Experience of incentive schemes has shown that it is difficult to include more than a proportion of the men's time on bonus work, so that the overall effect would on average be less than that indicated by the figures given.

A "Third Force"?

ADDRESSING the members of the West Midland Branch of the Institution of Works' Managers on the occasion of the annual meeting and dinner at the Grand Hotel, Birmingham, on September 12th, Mr. A. P. Young, O.B.E. (chairman of the Institution) expressed the opinion that British industry needed a "third force" to balance the activities of the T.U.C. and Employers' Federations. It should be representative of all management interests, and should be consulted by the Government just as were the F.B.I. and the T.U.C. When production was being discussed, interests other than labour and capital should be represented.

That rôle could be filled by that Institution and other bodies of the same nature combining to form an Institute of Production. Such a national body could become one of the most powerful organisations in the country for the improvement of our economy and well-being. He sincerely hoped that the working agreement recently come to between the Institution and three other similar organisations would result in the formation of a Confederation able to speak with a united voice on production matters.

Mr. G. B. Bull (Hon. Sec.) considered that the Branch should set itself a membership target of 1,800. At present out of over 13,000 factories in the Area there were only 275 members. Mr. L. C. Baxter was elected chairman, Mr. E. W. Wale vice-chairman, and Mr. Bull hon. secretary.

Miss A. I. G. Hewitt, of Harold Whitehead and Partners Ltd., industrial consultants, talked to Economic Engineers. *(See page 163)*

Miss Elizabeth Barling, new Personnel Manager of the John Lewis Partnership, succeeds Mr. A. E. Porter. *(Partnership photograph)*

Films on Steel

FILMS, film strips, diagrammatic wall charts—all are playing an increasingly important part, not only in industrial training and education, but in conveying general information of all kinds.

Who would have guessed that there are about 150 films of direct interest to the steel industry? This is one of the surprising facts that emerges from a new publication of the British Iron and Steel Federation—"Iron and Steel Visual Aids Catalogue."

Details are given of the different films—their length, year of production, character and where they can be obtained. They are divided under different headings, such as general, works, special steels, scientific, miscellaneous, safety, regional, etc.

After the films comes an informative catalogue of film strips, cyclic loops (a short length of moving picture), wall charts and maps, and booklets.

Safety Precautions for Hoists and Lifts

By BERNARD W. A. CRUTCHLOW
Deputy Superintending Inspector of Factories

Adapted by Mr. Crutchlow from the notes of his recent lecture to the Central Metropolitan Group of the London Industrial Committee (Ro.S.P.A.) these details of regulations for lifts and hoists will be of use to many Safety Officers. Two other notes by Mr. Crutchlow appear overleaf.

THE 1901 Factory Act required hoists and lifts to be securely fenced, but included no detailed provisions. For many years, however, some hoist makers have provided a high standard of protection, and Section 22 of the Factories Act, 1937, embodies details of the best-known practice. The definition of hoist or lift for the purpose of Section 22 includes any lifting machine with a cage or platform which runs in guides.

The Section has been slightly modified by Section 11 of the Factories Act, 1948. This requires that the gates of non-power hoists, which need not be interlocked, shall be kept closed and fastened unless the cage or platform is at the level to which they give access.

Section 36 (4) of the 1937 Act is also of importance in relation to lifts and hoists, since it requires the fire-resisting enclosure of hoistways in buildings erected after July 1, 1938, with the intention of preventing the spread of fire from floor to floor by way of the lift shaft. In this connection fire-resisting means something like brickwork with doors of fire-resisting hardwood or of special fire-proof construction. Lattice gates are clearly not permissible for the enclosure and it is highly improbable that shutter gates constructed from light gauge sheet metal would meet the requirement.

Many of the requirements of the Section are concerned with the prevention of the two main classes of hoist accident, that is, falling down the well and trapping between the cage, platform or other moving part and a fixed structure.

Rules for Gates

In general there must be complete enclosure of the hoistway with all gates fully interlocked. Gates need not, however, be interlocked on non-power hoists, but they must be kept closed and fastened except when the cage or platform is at their level.

Interlocks on gates should be of robust construction and not easily put out of order. It should not be possible, for example, to manipulate from outside the well the lock lever intended to be operated by the cage.

If no person rides in a power-driven hoist and in the case of a manually-operated hoist, there need not be gates on the cage, nor does the requirement of cage gates apply to hoists with a mere platform, but it should be noted that the hoist and hoistway are required to be so constructed as to prevent any part of a person or any goods carried being trapped between the lift and any fixed structure, or between the balance weight and any other moving part of the lift. To meet this, all lattice gates both on the enclosure and the cage should be of the close picket type and, in the case of a hoist without cage gates, the inside of the well should be so constructed that there can be no trap against any projection.

It is good practice also to enclose, within the well, the bottom 6 ft. 6 in. or so of the balance weight travel. This is to protect fitters who at times have to work inside the well while the cage is moved.

Further safety devices are required on passenger-carrying cages constructed or reconstructed after July 1, 1938. There must be two means of suspension, each of sufficient strength to support the cage, and it is usual to fit some compensating device so that the weight is equally distributed between them.

A cage of this type must also be fitted with a device to prevent it falling should the suspension fail. These devices often take the form of serrated cams which grip the guides, but more modern hoists are fitted with a governor-controlled mechanism which brings the cage gently to rest when the suspension fails.

The Section requires all hoists to be of good mechanical construction and sound material, of adequate strength, and to be properly maintained. In two recent High Court cases Whitehead v. Stott (James) and Co., 1949, and Galashiels Gas Co. Ltd. v. O'Donnell (or Millar), 1949, it has been decided that these obligations are absolute.

All hoists have to be plainly marked with the maximum safe working load and thoroughly examined by a competent person once in every six months if power driven, and twelve monthly if manually operated. The competent person should report on his examination on the prescribed Form No. 54.

There are, of course, some hoists which fall within the definition in Section 22, to which all the requirements mentioned above are not applicable. A large number of these are dealt with in the Hoist Exemption Order S.R. and O., 1938, No. 489, to which reference should be made.

Four Simple Rules

Accidents on hoists are not frequent, but are usually severe, and the Safety Officer may well consider the following simple rules:

1. See that the statutory examinations are carried out at the correct intervals and reports given on the prescribed form; maintenance chits are not enough.
2. Watch carefully for tampering with interlocks; this must not be permitted.
3. Watch for damage to gates. For example, gate pickets at toe level can often be damaged by trolleys. They also become bent if dirt is allowed to accumulate in the bottom rail.
4. Encourage reports on defects in hoists and investigate them as soon as they are received.

Training of Young Persons

TRAINING and supervision of young persons required to work at certain machines, i.e. those specified in the Schedule to the Regulations made in 1938 (S.R. and O., 1938, No. 485), are dealt with in Section 21 of the 1937 Factories Act. There is a similar provision in paragraph 9 of the Woodworking Machinery Regulations, 1922, but its application is not limited to young persons.

It should be noted particularly that the young person is required to be instructed as to the dangers arising in connection with the machine and the precaution to be taken. Clearly, therefore, he must be told about any guards and their adjustment. He should also be made aware of any other safety devices such as swarf brushes and stopping and starting devices.

Even when he has had this instruction the young person may not legally work at the machine until he has either received sufficient training in the work or is under adequate supervision by a person who has a thorough knowledge and experience of the machine.

"How and Why"

It is often asked what is sufficient training? This clearly must depend upon the type of machine, the work being done and the young person. I would say that several weeks under supervision is an absolute minimum. A young person may regularly turn out a satisfactory article early in his training, but some time must elapse before all the snags on which he will require guidance will arise.

In the early stages the person supervising should give his whole attention to training the young person. As time goes on the supervision can, and should be, less direct; for example, it may properly be exercised by a person working on an adjacent machine or a charge-hand overlooking work nearby.

Training could also, with advantage, include some explanations as to how the machine works, how it is set up and adjusted. A keen boy who has not been told about his machine will often try modifications to see what happens, and this can result in damage to the machine and himself.

Quite apart from their legal obligations, all persons concerned with training young persons have a moral responsibility, and this should be impressed on foremen and senior hands. The youngsters look up to these men who can make or mar a young recruit.

Finally, it should be made quite clear that this section in no way modifies the requirements of Section 14 as to the fencing of machinery.

Machinery Cleaning Regulations

SECTION 20 of the 1937 Act deals with the cleaning of machinery by women and young persons. Its provisions may be summarised as follows:

A woman or young person may not clean while it is in motion,

1. **Any part of a prime mover.**
2. **Any transmission machinery.**
3. **Any part of any other machinery if this would expose the woman or young person to risk of injury from any part of that machine or any adjacent machinery.**

It is important to note that, as far as prime movers and transmission machinery are concerned, there is an absolute prohibition. Women and young persons are permitted to clean other types of machinery in motion, provided they are not exposed to danger from any moving part of the machine they are cleaning or of any adjacent machine.

This section has considerable application in the textile and similar trades in which fluff or dust is continually produced and, if allowed to accumulate on machines, might spoil the product or impede the working of the machine. In such trades cleaning machinery in motion was at one time responsible for a large percentage of machinery accidents; some branches of the textile industries have a special time set apart for cleaning machines when all the plant is stopped.

There does not appear to be any recently decided case which has any bearing on this section, but two older cases are of interest.

In Taylor v. Dawson, 1911, it was decided that the removal from a machine of fluff which had some value was cleaning, and in Pearson v. Belgium Mills Co., 1896, it was held that the corresponding section of the Act then in force applied to the cleaning of part of a prime mover which does not move.

In considering the requirements of this section, the Safety Officer should direct his attention to two main considerations. He should avoid the need for the constant cleaning of machines as far as possible by collecting fluff, dirt, etc., as it is produced, and he should see that all dangerous parts of machinery are fenced.

The 'Private Patient' Plan

PRESSURE on the facilities offered under the National Health Service has resulted in delays in almost every department—delays which in some cases can prove dangerous to health and in all cases are vexatious and annoying. While in theory this overwhelming demand will in due course slacken and settle down to something with which the hospitals can cope, it is obvious that without considerable capital expenditure on "bed-dage" it must continue for a long time yet.

It is to meet the demands of this aggravated interim period that the Crusader Insurance Company has perfected its "Private Patients" Plan, which is designed to get over such difficulties as result from headstrong planning, and also to provide for such persons as prefer to be treated as individuals. The plan is designed to cover those of both sexes below the ages of 65 (men) and 60 (women), together with the wives of male policy-holders under 60 years of age, and their children or step-children up to age 18.

Benefits are scaled to cover, with a few exceptions, consultations and treatments (including all anaesthetic and operation fees), nursing home fees and post-operation treatment to a maximum of £189 in any one year, and, additionally, provide for policy-holders' use of the "Crusader" Health Advisory Service.

A special welcome is due to the first of the "British Food Fairs," designed to give the public—and others—some idea how the wheels of food production go round. Review is by L. Banham, A.R.San.I.

'CANTEEN'

THE FOOD MANUFACTURERS' FEDERATION, as sponsors of The British Food Fair, are to be warmly congratulated on the high tone of the exhibition, which was designed to interest the consumer public. The attendances at the exhibition, and the favourable comments made by visitors there have certainly dispelled whatever misgivings the organisers may have felt regarding their success at the outset, and those members of the Federation who elected not to exhibit must now be regretting their decision.

It was pleasing to note that the advertisement potentiality of the exhibition was not the only question considered by the organisers, and that some thought had been given to the welfare of the visitors themselves. Ample and excellent seating accommodation was available in the "Berkeley" Rest Lounge (*H. J. Searle and Son*) where one could get a quiet rest and ponder over the things already seen.

Special Exhibits

The *Central Council for Health Education* stand was a welcome addition to a show of this kind, for the excellent work of this body rarely gets the appreciation which it merits. Difficult though it is for the housewife to readily understand the circumstances which might lead to food becoming unsafe to eat, yet one lesson was made abundantly clear to those who visited this stand. It will be realised now, if never before, that a foodstuff need not look changed in appearance from normal to be unsafe to eat, nor for that matter need it taste at all offensive; hence the inadvisability of tasting any food regarding the safety of which one might be suspicious..

The Department of Scientific and Industrial Research (Food Investigation) stand showed the results of research on certain problems of food preservation and storage.

The Infestation Control Division of the *Ministry of Agriculture and Fisheries* exhibit called public attention to certain of the more important pests which in one way or another attack the nation's food and films on the control of rats were shown.

It would, perhaps be unfair to single out any particular stand for attractiveness of display for the general standard was so high. The West Indian Garden of *Tate and Lyle* could hardly be regarded as a stand and its novelty and attractiveness of design merits tribute.

Also in the West Indian style was the stand of *L. Rose and Company*, of St. Albans, whose lime juice and fruit squashes are world famous. What a pity that there was no real-life "Hawkins" to serve the customers!

British Food Fair 1950

Most of the larger food manufacturing concerns employ Catering Advisers who advise housewives on how best to use the firm's products. Notable amongst the many attractive recipe booklets and leaflets given away at the exhibition were those of *McDougall's Flour, Brown and Polson Ltd., Davis Gelatine Ltd. and Hartley's Jams.*

These recipe folders and booklets are far more valuable to the consumer than leaflets giving the firm's history or an account written in semi-scientific language of some process of food production. Money spent on advertising in this form is likely to earn greater reward than any other.

It might be a sound proposition for food manufacturers to enlarge on this recipe service and include economical recipes suitable for numbers upwards of one hundred. Such recipes would be useful for industrial canteens where it is appreciated that a recipe designed for four people does not necessarily become suitable for one hundred persons merely by the simple expedient of multiplying the quantities of the ingredients by the figure twenty-five.

The demonstrators at the exhibition were quite good with the possible exception of the man who licked his thumb and forefinger in order the better to pick up a pamphlet to hand to a visitor and then went on to handle equipment used in a subsequent demonstration!

The buffets at Olympia are a weak

(Concluded on page 186.)

The attractive stand of Rose's Limejuice was among those specially noted by our Roving Reporter

IS YOUR OFFICE BOY YOUR MANAGING DIRECTOR?

Then Why Have a Junior Running The Backbone of Your Business?

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Above all, there is neatness and order. Even a junior can't jumble up these files (even if we do say that filing is too important a job to be left to juniors). Each file is flat-topped right across and suspended metal on metal. Each has a provision for a slotted-in record card in front. Each has ready-printed numbers 1 to 12 and 1 to 31 for dates and "progressing."

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Summary of Official Publications and New Rulings

STATUTORY INSTRUMENTS

No. 1253. The Boot and Shoe Repairing Wages Council (Great Britain) Wages Regulation Order, 1950. Dated July 26, 1950, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (c). *H.M.S.O.* 1*s*. (Revokes Order D(95) and sets out new statutory minimum remuneration payable. Operative as from August 18, 1950.)

No. 1266. The Retail Bookselling and Stationery Trades Wages Council (Great Britain) Wages Regulation Order, 1950. Dated July 27, 1950, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 4*d*. (Revokes Order R.B.C. (3) and sets out new statutory minimum remuneration payable to workers other than watchmen and certain part-time delivery workers). Operative as from August 21, 1950.)

No. 1360. The Milk Distributive Wages Council (Scotland) (Constitution) Order, 1950. Dated August 10, 1950, made by the Minister of Labour and National Service under Section 20 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 1*d*. (Brings the constitution of the Milk Distributive Wages Council (Scotland) into conformity with the requirements of the Act. Operative as from August 17, 1950.)

No. 1392. The Retail Food Trades Wages Council (England and Wales) Wages Regulation Order, 1950. Dated August 18, 1950, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 4*d*. (Supersedes the Schedule to Order R.F.C. (3) and sets out new statutory minimum remuneration payable. Operative as from September 11, 1950.)

No. 1391. The Retail Food Trades Wages Council (Scotland) Wages Regulation Order, 1950. Dated August 17, 1950, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 4*d*. (Revokes Order R.F.C.S. (3) and sets out new statutory minimum remuneration payable. Operative as from September 11, 1950.)

No. 1357. Legal Aid and Advice Act, 1949 (Commencement) Order, 1950. Dated August 4, 1950, made by the Lord High Chancellor under Sub-Section (2), Section 17 of the Legal Aid and Advice Act, 1949 (a). *H.M.S.O.* 1*d*. (Brings into force on October 2, 1950, Part I of the Act which provides for making legal aid available free to persons requiring it in connection with proceedings in courts of law.)

No. 1450. The Fur Wages Council (Great Britain) (Constitution) Order, 1950. Dated August 29, 1950, made by the Minister of Labour and National Service under Section 20 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 1*d*. (Brings the constitution of the Fur Wages Council (Great Britain) into conformity with the requirements of the Act. Operative as from September 5, 1950.)

Draft. The Foundries (Parting Materials) Special Regulations, 1950. Dated . . . . ., made by the Minister of Labour and National Service under Section 60 of the Factories Act, 1937 (a), and Section 8 of the Factories Act, 1948 (b). *H.M.S.O.* 1*d*. (1. Prohibits the use of material containing compounds of silicon calculated as silica to the extent of more than 3 per cent by weight of dry material, provided this prohibition does not prevent the use as parting material of natural sand or a substance specified in the Schedule (i.e. Zirconium silicate (Zircon); Calcined china clay; Calcined aluminous fireclay, Sillimanite; Calcined or fused alumina; Olivine), provided the material does not contain an admixture of any other silica. 2. Dust or other matter deposited from fettling or blasting must not be used as a parting material or constituent thereof.)

GENERAL

Annual Report of the Ministry of Labour and National Service for 1949. Issued by the Ministry of Labour, September, 1950. Cmd. 8017. *H.M.S.O.* 4*s*. (*See also page* 171.)

Employment of Children. Issued by the Ministry of Labour, June, 1950. Cmd. 8005. *H.M.S.O.* 3*s*. Report of the Departmental Committee on the employment of children as film actors, in theatrical work and in ballet.

Catering Wages Commission. Issued by the Ministry of Labour, July, 1950. *H.M.S.O.* 5*s*. Report of an inquiry into the operation of the Catering Wages Act, 1943, in the hotel industry. (*See also page* 124 *of our September issue.*)

Alkali, etc. Works. Annual Report of the Chief Inspectors for the year 1949. Issued by the Ministry of Health, August, 1950. *H.M.S.O.* 1*s*.

Regulations for Shipbuilding and Ship Repairing. Issued by the Ministry of Labour and National Service, August, 1950. *H.M.S.O.* 9*d*. Preliminary draft of new Special Regulations under the Factories Acts for shipbuilding and ship repairing. Deals with such matters as access and staging, precautions against falls, asphyxiation, fumes or explosives, miscellaneous safety precautions, protective clothing, health and welfare provisions.

Pottery (Health and Welfare) Special Regulations, 1950. Health Register. Issued by the Ministry of Labour and National Service, Factory Department, June, 1950. Factory Form No. 655. *H.M.S.O.* 1*s*. 6*d*.

Grinding of Metals (Miscellaneous Industries—Special Regulations, 1925 and 1950. Issued by the Ministry of Labour and National Service, Factory Department, June, 1950. Factory Form 992. *H.M.S.O.* 4*d*.

Grinding of Cutlery and Edge Tools Special Regulations, 1925 and 1950. Issued by the Ministry of Labour and National Service, Factory Department, May, 1950. Factory Form 993. *H.M.S.O.* 4*d*.

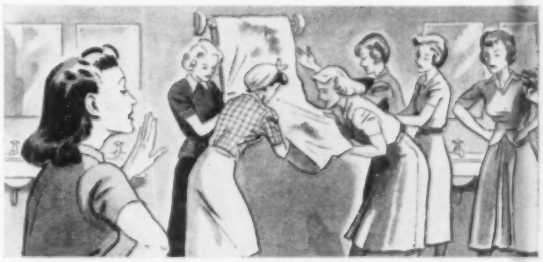
NATIONAL ARBITRATION TRIBUNAL AWARDS

No. 1484. Rates of Wages and Conditions of Employment of Clerical Workers Employed in the Corn Trade. Claim: Dispute over rates and conditions of clerical workers. Award: The Tribunal awarded as follows: (a) Minimum rates of clerical workers employed in Grade "A" (large cities or industrial towns) to be on scales ranging from 30s. at 15 years of age to 110s. at 25 and over for males, and 30s. at 15 years of age to 80s. at 23 and over for females; (b) minimum rates for clerical workers employed in Grade "B" towns (industrial towns not included in Grade "A") shall be 3s. less per week than Grade "A"; and in Grade "C" (country towns and rural areas) 6s. less per week; (c) shorthand typists and machine operators to receive 5s. above the corresponding scale; (d) two weeks' annual holiday with pay to be given to clerical workers with not less than one year's continuous service; those with less than a year's service to receive holiday pay on the basis of one day for each month's service. Payment also to be made for six statutory holidays. The Tribunal referred back for negotiation between the parties the question of working hours and overtime payments. (July 10, 1950.)

No. 1485. Rates of Wages and Conditions of Employment of Certain Clerical Workers Employed by a Firm of Corn and Agricultural Merchants in Dorset. Claim: For specified rates and conditions. Award: The Tribunal awarded as follows: (a) Minimum rates of clerical workers to be on scales ranging from 24s. per week at 15 years of age to 104s. per week at 25 and over for males and 24s. at 15 years of age to 74s. at 23 and over for females; (b) the claim in respect of salaries of chief cashier, chief clerks and managers clerks was not established; (c) two weeks' annual holiday with pay to be given to clerical workers with not less than one year's continuous service; those with less than a year's service to receive holiday pay on the basis of one day for each month's service. Payment also to be made for six statutory holidays; (d) the claim for payment of salary during sickness was not established. (July 11, 1950.) (*See overleaf.*)

How to cut absenteeism

The main cause of lost time in industry, according to the Medical Research Council, is sickness absence. Much of this absenteeism can be traced to the transmission of contagious ailments through the use of communal towels.



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Summary—*from p. 179*

No. 1486. Rates of Wages of Certain Workers Employed in the Coal Distributive Trade in the North Midland Region (Award No. 1413). Claim: For increase of 7s. a week for all workers, and for revision of grading to uplift certain towns from Grade 2 to Grade 1 in accordance with decisions of the Road Haulage Wages Council. Award: In favour of claim. (July 12, 1950.)

No. 1487. Riveting Squads Employed in Shipbuilding and Ship Repairing in the Tyne and Blyth District. Payment in Respect of Weekly Wages of Rivet Heaters Following Reduction in Working Week from 47 to 44 Hours. Claim: That riveting squads in the Tyne and Blythe district paid piecework prices out of which they pay their rivet heaters a fixed weekly amount, should be paid weekly by their employers, in addition to their piecework earnings, an amount calculated at a fixed hourly rate representing the difference, following upon reduction of normal weekly hours, between the rivet heaters' present hourly rate as paid by the riveters and their previous hourly rate. Award: Claim not established. (July 13, 1950.)

No. 1488. Claim for Payment in Lieu of Notice in Respect of Two Workers Formerly Employed by an Engineering Firm in Romford. Claim: For payment in lieu of notice in respect of two workers, under the terms of the Engineering Agreement of April 3, 1946. Award: In favour of workmen. (July 14, 1950.)

No. 1489. Dismissal of a Worker Formerly Employed by a Firm of Motor-Car Manufacturers at Coventry. Claim: Dispute over dismissal of a certain worker. Award: In favour of the employers. (July 17, 1950.)

No. 1490. Minimum Rates of Wages in, and Recruitment to, the Lithographic Printing Trade in England and Wales and in Scotand. Claim: Dispute concerning—(a) Minimum rates for members of the Society employed in printing offices in London, the Provinces and Scotland, the employers' organisations having made proposals in January for basic rates for minders of flat-bed machines and transferers of 142s. 6d. in London and three grades in the Provinces of 131s., 125s. 6d. and 123s. 6d., with extra rates for certain other machines and operations, and these proposals having been rejected by the Society; (b) adequate increased recruitment of labour to meet the serious deficiencies, the employers' organisation having made a proposal for the introduction of increased numbers of apprentices, and this having been rejected by the Society. Award: The Tribunal awarded that minimum basic rates for direct flat-bed machine minders and transferers in England and Wales be increased to 142s. 6d. per week in London, 131s. per week in Grade 1 towns and 127s. 6d. in Grade 2 towns. Towns at present classified Grade 3 shall be up-graded to Grade 2. The Tribunal were of the opinion that anomalies existed in the grading of towns and referred this matter to the parties for examination. The Tribunal considered that it was in the best interests of the industry that lithographic printers' wages and conditions be settled by negotiation between the parties, and referred the matter back. It also referred back for discussion the question of recruitment of labour. (July 18, 1950.)

No. 1491. Annual Holidays in the Buffalo Picker Manufacturing Industry. Claim: For an additional week's holiday with pay. Award: The Tribunal found the claim not established. (July 19, 1950.)

No. 1492. Annual Holidays in the Leather Belting and the Mechanical and Hydraulic Leathers Industries. Claim: For an additional week's holiday with pay. Award: The Tribunal found the claim not established. (July 19, 1950.)

No. 1493. Conditions of Employment of Certain Workers Employed by an Engineering Firm in London. Claim: For observance by company of terms and conditions contained in specified agreements in the engineering industry. Award: In favour of workmen. (July 19, 1950.)

No. 1494. Piecework Earnings of Certain Workers Employed by a Firm of Steelfounders and Engineers at Letchworth.

Claim: Dispute concerning company's proposal to change, in the case of moulding machine operators, the distribution of piecework earnings from the basis of 75/25 (75 per cent to the individual and 25 per cent to the pool) to 100 per cent bonus earnings to the individuals concerned. Award: The Tribunal found in favour of the company's proposal and awarded accordingly. (July 21, 1950.)

No. 1495. Claim for the Observance by an Engineering Firm at Brentford of the Provisions of a National Agreement Relating to Holidays. Claim: For observance by the company of provisions relating to annual holidays contained in a national agreement of the engineering industry. Award: In favour of workmen. (July 24, 1950.)

No. 1496. Rates of Wages and Conditions of Employment of Certain Workers Employed by a Firm at Mitcham Engaged in Bookbinding and in the Manufacture of Fancy Leather Goods. Claim: Dispute regarding rates of wages and conditions of employment of various workers employed on bookbinding operations and gold blocking. Award: The Tribunal awarded as follows: (1) Women pieceworkers wholly or mainly engaged on bookbinding operations to be paid in accordance with "Agreed scale of minimum prices for women's (letterpress) piecework" as arranged between the Bookbinding Section of the London Chamber of Commerce and the London Bookbinders' Branch of the Union in January, 1920, and subsequently amended. (2) As from date of completion of their training on case making and forwarding, certain women should be paid the appropriate men's rate. (3) That when these women cease to be so employed the question of their replacement shall be dealt with under the terms of the "War Emergency Agreement" made between the London Master Printers' Association and the union, June 1942. (4) That so far as bookbinding operations are concerned, the proportion of apprentices to journeymen shall be on a scale agreed between the Master Printers and the union as revised in December, 1949. (July 25, 1950.)

No. 1497. Wage Rate of Certain Workers Employed by a Firm of Flour Millers at Ipswich. Claim: For payment of balance of 1s. 6d. per week increase retrospective from date of Award No. 1190 to those workers receiving 101s. 6d. per week at the time of the award. Award: In favour of workmen. (July 27, 1950.)

No. 1498. Working Week of Certain Workers Employed by an Engineering Firm in Aberdeen. Claim: That company should implement specified agreement by establishing a five-day week of 44 hours all the year round. Award: In favour of workmen. (July 27, 1950.)

No. 1499. Working Week of Certain Workers Employed by an Engineering Firm in Aberdeen. (As above.)

INDUSTRIAL COURT AWARDS

No. 2268. Distributive Trades. Reference: To determine claim for an increase of 7s. a week to all adult workers, with pro rata increases to juveniles. Award: The Court awarded an increase of 5s. per week with pro rata increases to juveniles. (July 7, 1950.)

No. 2269. Government Industrial Establishments. Reference: That minimum rates for labourers and skilled labourers at certain Ordnance Factories and Air Stations be increased to 100s. 10d. per week of 44 hours. Award: The Court found the claim not established. (July 14, 1950.)

No. 2270. Government Industrial Establishments. Reference: To determine claim for an increase in lead rates to M.T. drivers. Award: The Court found in favour of claim, but determined that henceforth the Air Ministry would not be under any obligation to provide uniforms. (July 18, 1950.)

No. 2271. Light Vessel Service. Reference: Claim for compensation for long hours spent at sea; and for service increments to Masters and Ratings as follows:—6d. per day after five years' service; 1s. after ten years; 1s. 6d. after fifteen years; 2s. (max.) after twenty years. Award: The Court found in favour of the claim with the exception of the increment of 2s. per day after twenty years' service. (July 27, 1950.)

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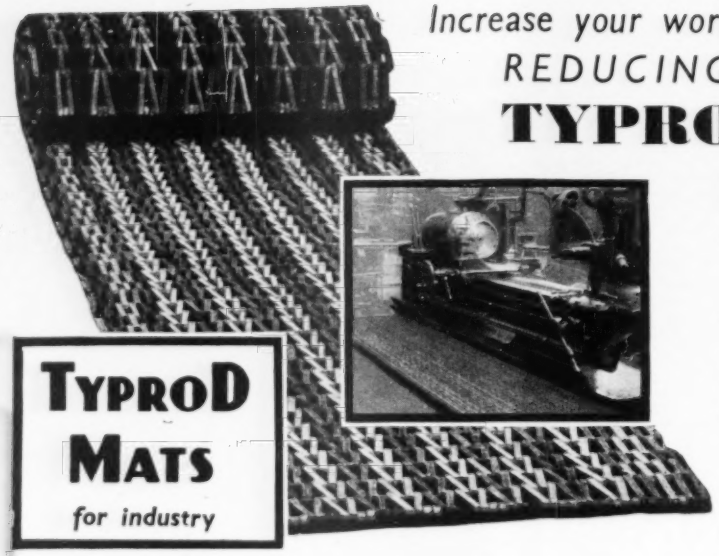

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INDUSTRIAL EQUIPMENT That Raises Production Efficiency

(SAFETY)

New *Permanent* Flame Proofing For Textiles

Details, all too brief considering the importance of the subject, have just been published in the United States of a new *permanent* flame-proof treatment for fabrics. We have written to ask for fuller information but are concerned at the moment to inform readers in broad outline of what has happened.

ABOUT two years ago Jones and Laughlin Steel Corporation's Safety Department were asked to test a new compound which it was claimed could fire-proof clothing and other fabrics *for keeps*. As is generally known the usual fireproofing requires renewal after every laundering and dry cleaning. The new compound was evolved following a laboratory accident where an anti-mildew compound was being prepared, when an explosion occurred and certain textiles were saturated with the proofing liquid. On test it was found that these samples would not burn.

A good deal of research followed, sponsored to a great extent by the B. F. Goodrich Company, and eventually a commercially-producible proofing was evolved which was definitely out of the ordinary.

To quote from *Safety Engineering*:—

"Cloth treated with the compound retained much of its softness and porosity and was not tacky, its colour was not affected, and it contained no skin poisons or irritants. It could be subjected to stringent commercial washing without any effect whatever on its flame-proof quality. Moreover, the treated cloth was shrink resistant and it would not mildew. It became more durable than it had been before treatment, and though it would char in the presence of intense fire, it would not flame or glow after the fire was removed. Here, at last, was a chance to produce efficient flame-proof clothing and successfully save men's lives.

"Two years ago, Jones and Laughlin Steel Corporation, one of the country's largest steel makers came into the picture. J. and L. is a company with active safety consciousness. It has been one of the leaders in making a safe business out of the producing and fabricating of steel, once considered one of the nation's most dangerous industries.

"Always searching for new safety ideas, J. and L. found out about the new flame-proofing product and requested that cotton work-clothing be treated with the compound. Here, perhaps, was the answer to a challenging safety problem. For years only cotton cloth treated with a soluble flame-proofing was available. This clothing was safe until washed or exposed to moisture—then it had to be treated again. Mill clothing needs washing so frequently that complete safety control was impossible. There were actual cases of serious burns when men had their flame-proofed clothing washed and later it ignited because the soluble flame-proofing solution had been washed out. In the eyes of J. and L. safety men, this new compound might prevent serious burns and save lives if it was as foolproof as it was said to be."

Twelve Months' Stringent Tests

"For a solid year, the Jones and Laughlin Safety Department subjected clothing treated with the new compound to the most stringent of tests. They hung up the pants and poured molten metal all over them. They welded within inches of the jackets and put the torch to the cloth. After the year was up, J. and L. safety men were convinced that the cloth was flame-proof. The haunting fear, facing many industrial safety men, that a spark or splash of molten metal might set fire to the clothing of exposed workmen, should gradually disappear with the expanding use of permanently flame-proofed clothing. And the men in the laboratory where the compound was discovered, with their sights fixed ahead towards flame-proof aprons in the kitchen and flame-proof mattresses on the bed, are at last certain that their lucky laboratory accident will be a life saver for a lot of people in the future."

The above item is typical of what we are trying to provide for industry—the item pregnant with possibilities of development. We do most earnestly ask that manufacturers who have, perhaps by chance, as in this case, stumbled across something of real value will let us have as full details as possible. We, naturally, pass on any enquiries which we receive to the firm who gives us the information.

Fire Detector

PHOTO-ELECTRIC cell fire detectors have been available for some years; now a newcomer claimed as "revolutionary" has come on to the market. This new detector operates on this principle of radioactivity, thus eliminating the previous difficulties with the photo-electric instruments of size and maintenance.

The *Minerva* electronic smoke detector, although new to Great Britain, has been used for some years in Switzerland, where it was invented.

Smoke in large or small quantities may be detected by the instrument although normally it is adjusted so that where, say, a cigarette would not set off the alarm, anything with a greater density would.

The instrument itself is a little larger than an electric light bulb and fits anywhere in a room, although usually in the ceiling, and will operate over an area of approximately 40 square feet. It can also be fitted in a warehouse to an alarm or automatic telephone system. First cost and maintenance is low.

(PM/289.)

(WELFARE)

Dust Removal

SUITABLE for really heavy work where a considerable volume of air at a high velocity is required to remove industrial dust, waste, metal filings, small nuts and bolts, screws, nails, etc., this industrial portable vacuum cleaner is a high-capacity model, simple to

operate, clean in handling and emptying. If required it can be used as a very powerful blower.

The machine has a multiple filter bag, which has a quick-release gear, enabling the dustbin to be removed frequently, as when handling powders in bulk. Stores, garages, workshops, factories, foundries, paint and colour works, cold stores, bakeries and road passenger transport vehicles are a few examples of where a rapid and convenient suction cleaning process is so advantageous.

On account of its powerful suction the machine (known as the model T.64) is useful for coupling to standing piping to facilitate cleaning at several points simultaneously, or to reach the scene of cleaning operations through considerable lengths of standing or flexible piping.

Another advantage of the high degree of power in this cleaner is that it may be used as an emergency pneumatic conveyor for transferring industrial powders, etc., through standing or flexible piping. This is convenient where a permanent pneumatic conveyor may not be available. **(PM/290.)**

(GENERAL)

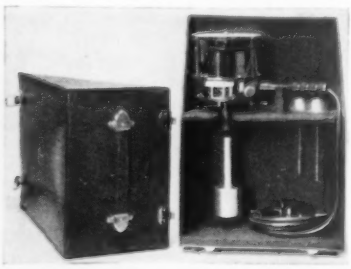
Viscosity Measure

VISCOSITY measurements are being used to an increasing extent for the determination of the properties of liquid and semi-liquid substances. The lubricating properties of oils and greases, the tackiness and gloss of printing inks and the binding powers of adhesives provide some of the everyday uses for a suitcase *Viscometer*, an instrument that will permit theoretical laboratory methods to be applied to practical test without sacrificing accuracy.

Measurement of the viscosity of a liquid is made by immersing the cylinders of the viscometer into the liquid, and switching on the motor. All that remains is to read the calibrated dial at the top of the instrument for the result.

Special features of this viscometer include its very light weight and its size, which make it ideal as a portable instrument. Viscosity ranges from 0-500,000 poises and the elimination of the end effect at lower viscosity ranges facilitates calibration in absolute units. The instrument operates from normal A.C. mains of 200/350 volts 50 cycles.

(PM/291.)



Pre-heater for Plastics

MAINTENANCE costs can be cut by using a new 2 kw. plastic pre-heater. It is designed with a single-valve oscillatory circuit with a voltage stabilising transformer incorporated in the oscillator valve filament supply. This cuts down the frequent valve failures which caused dissatisfaction with H.F. preheating equipment in the past.

The few controls ensure simple operation, the machine being switched into standby position with the mains, and put into operation by means of push buttons. The heating cycle is terminated automatically by a process-timer, and a control on the right-hand side of the set adjusts the separation of the electrodes to accommodate charges of different thicknesses. The oven will hold several pounds of plastic pellets and these may be raised to preheating temperatures at a rate of up to 1½ lb. per minute.

The generator is housed in a welded steel casing mounted on rubber-tyred casters and cooling is effected by means of a self-contained fan.

As the machine is fully mobile it can readily be brought to the optimum position for each job in succession.

(PM/292.)

All-in-One Vibro-Sprayer

THERE is no compressor unit in the *Burgess* electric *Vibro-Sprayer*. Operated directly from A.C. mains, this inexpensive gun will spray enamels, lacquers, insecticides and any other liquids except those water-based which might, in time, rust the mechanism.

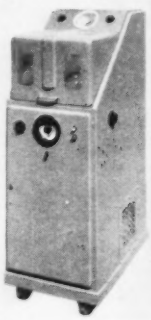
Suitable for spraying outdoor furniture household items, cars and for insect control, the sprayer is fitted with a removable quart jar to contain the liquid and has a convenient pistol-grip handle designed for comfort and one hand operation.

There is no large "body" to the sprayer which enables its use in any confined space. **(PM/293.)**

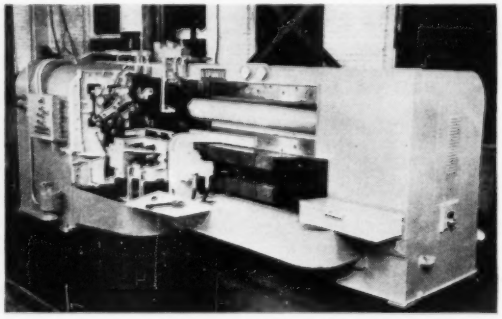
New Broaching Machine

INTENDED for high production work similar to that encountered in the automobile industry is a new double-ram horizontal surface broaching machine, broaching cylinders, connecting rods and engine components made in tough steels. Under actual production conditions, and using a cutting speed of 25 ft. per min., an output of one complete connecting rod and cap per 65 seconds is possible from rough forgings.

Built in 15 ton and 25 ton sizes, the machine is available with 66, 90, 120 in. strokes. Ingenious guards travel with the broaches on both the cutting and return strokes, completely enclosing the tools and lessening the chances of accidents or of damage to the machine. In cases where the machine is subjected to abnormal operating conditions an automatic cooling device may be fitted to the hydraulic system. Universal broach inserts, mounted in adjustable



Plastic Pellet Pre-heater



The new horizontal Broaching Machine described above

sub-holders allow up to seven similar but different size components to be machined with one set of broaches, at a considerable saving of setting time.

Another refinement is the provision of a dual control panel within easy reach of the operator. Individual push buttons enable any machine movement to be controlled independently when setting-up. For the operator's convenience they are arranged in logical sequence, eliminating his need to move to and fro to study their position. On the front edge of the panel is a second set of buttons controlling the automatic cycle. When either set is in use, an electrical interlock system immobilises the second set. **(PM/294.)**

Contact-Point Grinder

CONTACT points, upon which the performance of an I.C. engine depends, can be cleaned and trued efficiently by the new hand-operated *Truepoint* (*Precision*) *Contact Grinder*.

As the contact arms of the grinder are mounted at their fulcrum points for grinding, thus copying the angle at which they lie in the distributor, they will consequently "mate" correctly when reassembled. The contacts are at the same time automatically given the necessary degree of convexity.

(PM/295.)

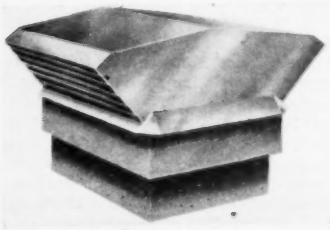
(HEATING & VENTILATION)

Roof Ventilator

ADEQUATE and efficient ventilation of industrial premises has an important bearing upon production. Working zones cannot be rendered free of excessive heat, vapour, fumes, smoke or other undesirable atmospheric conditions by natural roof ventilators alone, depending entirely, as they do, upon variations in interior and exterior temperatures and wind effect.

The roof ventilator illustrated here is supplemented by a power-driven fan, thus ensuring positive extraction under all conditions.

The ventilator is constructed of strong gauge welded sheet steel, finished inside and outside in a black bitumastic paint after assembly, or from galvanised plate.



The unit consists of a propeller fan and diaphragm plate, with standard drillings to suit the angle-iron ventilator base.

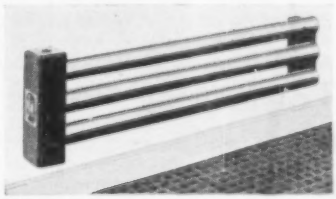
The four-bladed impeller gives high air displacement in relation to size, and the totally-enclosed ball-bearing motor employed as a standard feature is designed to give long and reliable service under continuous running conditions. Patented resilient mountings secure the motor suspension arms to the diaphragm plate.

(PM/296.)

"Thermotube"

PRODUCT of a well-known electrical engineering firm, this industrial and marine waterproof "Thermotube" has been designed for use in situations where dampness, water spray or rough treatment preclude the use of thermovent convectors or standard "thermotubes."

The unit is of robust construction, made from heavy-gauge, seamless steel tubing, with welded terminal box, fitted with interconnections between the tubes.



A newly-developed finish, with a top coat of self-oak colour cellulose paint, protects the heater from rust and corrosion. Standard "thermotube" non-ceramic elements are used, operating at black heat.

The normal loading is 180 watts per foot for the complete bank, but this can be raised to between 120-240 watts per foot if required.

The large terminal box cover allows easy access for wiring. The box is drilled at the top and bottom for ¾ in. conduit or packed gland, one end being fitted with a plug. The cover has a watertight gasket. Fixing brackets are integral with the heater and so arranged for easy attachment to a wall or bulkhead.

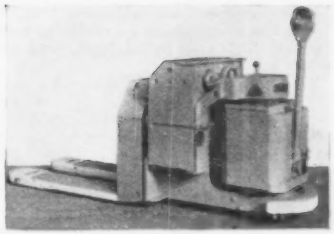
The "thermotube" is available in lengths from 3 ft. to 12 ft. and in a voltage from 100-220 to 230-250, A.C. or D.C. **(PM/297.)**

(GOODS HANDLING)

Pallet Leader

THE *Pallet Leader*, a new electric low-lift fork pallet truck, has been designed to transport loads up to two tons. It is a compact battery-driven unit and the manufacturers claim that it is easy to operate and maintain.

With two speeds forward and two



reverse it travels at a safe walking speed and the turning radius is less than the maximum overall length of the truck, which is 7 ft. 10½ in. Since the forks are supplied in four standard lengths, the overall length varies by 18 inches.

Steering is by a lightweight spring-loaded "tee" handle which also operates speed selection and brake controls. The complete driving unit is mounted in a large diameter ball-bearing turntable allowing 210 degrees of free movement. The steering handle when released flies back to the vertical position and avoids floor obstruction. This action also cuts off the power and automatically applies the brake to avoid accidents.

The frame of the Pallet Leader is made of electrically-welded steel sections with steel bumpers at the front, and the driving power is generated through lead acid traction-type batteries which have a capacity calculated to give ample power for the working day. **(PM/298.)**

Electric Crane Truck

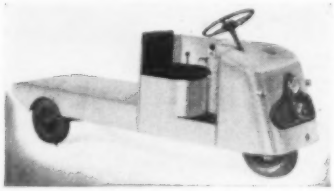
CAPABLE of lifting 10 cwt. and able to carry a load of 30 cwt., the electric crane truck illustrated is exceptionally useful in cases where heavy single pieces have to be lifted to the truck platform. It can also be used for loading or unloading barrels, sacks, etc., to or from railway wagons or lorries.

The crane obtains its power from the battery of the truck, the control levers for hoisting and derricking being conveniently situated for operation by the driver. The crane mechanism is mounted on ball bearings, and hand slewing is, in

consequence, very easily carried out.

The truck is absolutely stable in any position under its rated load, and no sprags are required.

The platform is built of chequer plate. The frame is made of channel section steel, of welded construction, suitably cross-braced and strengthened by gusset plates. **(PM/299.)**



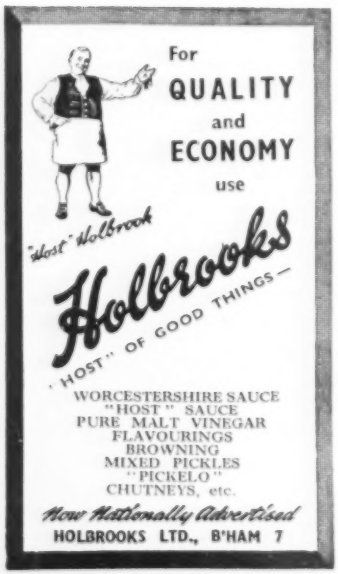
The Hirst Truck

Handy Truck

LOADS up to one ton can be carried by the *Hirst* mechanical truck which has been designed for factory and warehouse use. The truck is powered with a *Ford* 8 h.p. engine which has two forward gears and one reverse.

There are three specially-designed models on the market. With a maximum speed of 8 m.p.h. and an unladen weight of 10 cwt., the truck complies with all road traffic regulations for short journeys between works.

(PM/300.)



British Food Fair

Concluded from page 177

spot in the organisation. The management ought to realise that there may be customers who do not like being served by a person who pats her hair into place before handling a piece of slab cake. Where are the caps and the servers?

Everywhere there were samples to be had for a few coppers, or morsels of various foods to be tasted free. Many of these were old and tried favourites, but amongst items not so well known were the products of *Kavli Ltd.*, of Gateshead, Co. Durham, namely Primula Crispbread, which, when combined with Primula Cheese would make a useful addition to the mid-morning snacks at any canteen. There is a growing interest in such things as the Milk Whipping Compound as demonstrated by *Sorensons of Manchester*, which, if ably used, could make the ordinary sweet look quite elegant.

The miniature sizes of some of the products would be especially acceptable to old people of limited income who are obliged to live alone. Miniature sizes of jams and marmalades as exhibited by *Robertsons* are a great delight to young children, and children are, after all, an essential part of the consumer public. *Symington's of Market Harborough* realise too well the importance of the child as a consumer and a customer and on their stand they made an especial effort to entertain the young folk.

No comment on this exhibition would be complete without recording the pleasure which the works of art which were lent to the Fair gave to those who saw them. To include something of cultural interest in an industrial exhibition was indeed a happy thought. Those who have visited this British Food Fair will look forward with pleasure to the next.

Tea-making Courses

FOR the past four years the Tea Bureau, the service organisation representing the main tea producing and exporting countries of the world, has held courses in tea making and service at its headquarters, the Tea Centre, 22 Regent Street, London, S.W.1. Last year one-day courses were inaugurated to meet the specialised needs of catering staffs in industry and were attended by staff from a wide range of industrial organisations. After a brief mid-summer break these courses, which are held on the Tuesday of each week, will be resumed on Tuesday, October 3.

The morning session is held at the Tea Centre with a syllabus of lectures, films and practical demonstrations covering the essentials of good bulk tea making and efficient service. Emphasis is laid on the importance of careful planning, particularly for the mid-shift tea service, to ensure that the workers are speedily provided with good, hot tea and that the benefits of such tea breaks are not negatived by loss of production time.

In the afternoon the trainees visit the Lion Works at Woking in Surrey where, by courtesy of the directors, they watch the actual operation of a well-organised mid-shift tea break. A charge of 7s. 6d. per person is made for this course to cover the cost of fares and meals.

The Tea Bureau is recognised as the authority on industrial tea services in this country and these training courses are based upon practical experience gained during years of advisory work in this field.

Managements who wish to send any of their catering staff to these courses should make application to the Commissioner of the Tea Bureau at the above address.

CORRECTION

WE much regret that the "legend" to Fig. 2 of Mr. W. Douglas Seymour's article on "Specialised Operative Training," on page 115 of our September issue, was inadvertently reversed. The more favourable production line—the solid line—should, of course, have referred to the results achieved by "Trainees" and not by "Workroom Learners".—Editor.

HOLLAND'S FUTURE MINERS—*from p. 169*

sense of balance and agility, and are tests of personality as well as physical fitness.

A similar system is used for general training subjects and every quarter's "standards" are entered as passed on a card which the boy holds. All are tests of actual achievement—tying successfully more complicated knots, building a wooden object for use, recognising ten birds, five trees and fifteen wild flowers, and so on—not

proofs of a capacity to reproduce the words of a classroom lecturer. A careful watch is kept on the boy's abilities throughout the year, but most of all on the way he behaves in the free atmosphere of the camp.

The trainee gains much during his first year. The colliery, however, apart from the prospect of an efficient future worker, benefits only by his few hours' work in the gardens and the occasional useful odd job.

In their second year, though, the boys do more than learn. Five hours every day they are employed in the surface installations, working much of the time in small groups alongside specially-chosen worker-instructors. The remaining two working hours are divided between P.T. and theoretical instruction. The last month, however, is reserved for training in the practice mine, usually sunk in the waste dump. In groups of eight, each with its own teacher, the boys at last get a taste of underground work and learn to do everything apart from actually cutting coal.

Underground Work

In the third year real underground work begins, but only one day a week for the first quarter, two for the second and so on. The other days are still occupied by theoretical instruction, P.T. and surface work. The men with whom they work underground are again carefully selected and keep in close touch with the boys' general instructors; and to assist in smoothing out final difficulties, one of the latter acts as direct liaison between the trainees and the mine director. The boys spend some time discussing with their teachers the whole run of work underground, and every effort is made to see that they understand completely everything they do. A man who works only by rote is not much use in a mine.

After final tests the lads pass out as qualified hauliers, with a chance of getting their face-worker's certificate by the time they are 23 or, if specially bright, of going on a four-year course at the School of Mining after two years' underground work.

Some 2,000 youngsters are now in training. Despite "wastage" of approximately 15 per cent from all causes, the mine authorities say they are thoroughly satisfied with the results of the new scheme. And to judge from the strikingly happy appearance of all the lads I have seen during visits to Dutch State Mines in the last two years, so are the boys.

SEATS FOR WORKERS (*from p. 170*)

chair proves its worth, giving comfort without compression and a rigid purchase for the worker whose job necessitates thrust or "bearing on." For certain work there is a further need to be considered—the provision of rigid armrests at a height suited both to the job and to the stature of the operator.

Special Adjustments

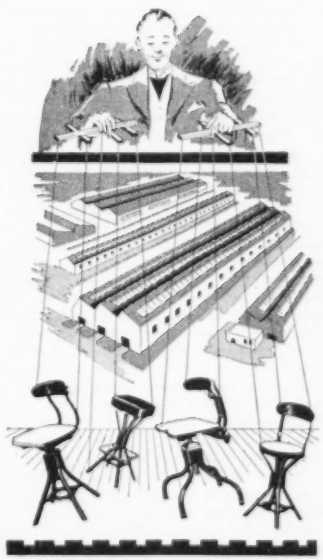
In some cases seats may be mounted on rails, giving considerable lateral movement; in other cases they may be fixed to the machine itself pivoting out of the way when not in use. The backs of such chairs may be made to fold down on the seats. In others the type of work prevents the provision of a backrest and here the job should wherever possible be planned to give the worker the chance to stand for occasional periods. In such cases, however, seats with backs must be made available for use in rest periods.

Where the nature of the process makes sitting impossible, provision must be made for rest period sitting and it will be found profitable to consider for this purpose the various types of "nesting" chair. Whether used in rest rooms or in the workshops these chairs—of wood or metal—can readily be put down for use and as swiftly stacked away again. In fact, for this purpose almost any of the usual types of canteen chair will be found effective. Trolleys for removing stacks of chairs are obtainable.

Chairs or stools may be made of metal or wood, and seats can be of either material, of plastic or of canvas. A main point is that they should be readily cleanable; another is that they should stand hard use.

Where it is decided that the adjustable chair does not quite fit the bill a hand-tailored job will be necessary and Welfare Pamphlet No. 6 *Seats for Workers in Factories* (Fourth Edition) issued by the Ministry of Labour and National Service, gives exact details of how to go about measurements, etc. It also gives a number of illustrations of various types of seating and a good deal of useful information. Its price is two shillings and it may be obtained from H.M.S.O.

The Factory (SEATING) Act 1948



Where a substantial proportion of any work can properly be done sitting—(a) There shall be provided and maintained for any employed person doing that work, a seat of a design, construction and dimension suitable for him and the work, together with a footrest, on which he can readily and comfortably support his feet if he cannot do so without a footrest.

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Welfare & Production Equipment To Be Installed

Blackburn.—A canteen and lavatories are planned at Bridge Mill, Moorgate Street, for Bridge Mill Rubber Co. Ltd.

Blackpool.—The T.C. Estates Committee has approved plans, etc., in connection with lease of land by the Council for a new works proposed by F. L. Hartley (Cameron Confectionery Co. Ltd.) at corner of Mowbray Drive and Melwood Avenue.

Cheadle.—A Ministry of Town and Country Planning inquiry has been held into an application by the British Portland Cement Manufacturers Ltd., of Portland House, Tothill Street, London, S.W.1, for approval, in principle, for use of a site east of Cauldon and south of Waterhouses, near Cheadle, North Staffs, by erection of a proposed cement works. The buildings and plant will cost a total of £2,500,000.

Chelmsford.—Additions and canteen at New Street for Marconi's W. T. Co. Ltd. Architects: E. R. Collister and F. J. Taylor, 19 London Road, Chelmsford.

Coatbridge, Lanark.—Messrs. Cowie and Miller, Oakhall Chambers, Motherwell-Wishaw, are preparing plans for extension to canteen, new ambulance department, new office, and other works, including a drying building, at the Rosehall Brick Works, Coatbridge.

Consett, Durham.—The National Coal Board intend building pithead baths and a canteen at Crookhall Colliery. The baths are expected to be built next year and the canteen later.

Coventry.—Reinstatement works to cost £50,000 are proposed by Singer Motors Ltd., Coventry Road Works, Birmingham 10. T.C. is now recommended to grant lease of land at Stoneleigh Industrial Estate to King's Engineering Co. Ltd.

Durham.—Miners' Welfare Department, of Saville Row, Newcastle-on-Tyne, propose a canteen at Barcus Close Colliery to plans by their own architects.

Ellesmere Port, Cheshire.—The Associated Ethyl Co., Artillery House, Artillery Row, London, S.W.1, are to erect a large chemical plant at Ellesmere Port on 60 acres. The buildings will occupy 400,000 sq. ft. Work is expected to begin shortly. Plans have been approved by the Ellesmere Urban Council and by the County Planning Officer of the Cheshire County Council. The site is in the Ellesmere Industrial Estate, near the main road passing through the Stanlow Oil Refineries, and adjacent to the Manchester Ship Canal. In addition to the works buildings there will be administration, medical and research blocks, laboratories, a canteen, storage facilities, workshops and recreational facilities. Messrs. Farmer and Dark, Terminal House, Grosvenor Gardens, London, S.W.1, are the architects for the erection of a paper mill for Mersey Paper Mills Ltd.

Gateshead.—The Chief Architect (H. J. Cook), Municipal Buildings, Gateshead, has prepared plans for a canteen, and alterations to the welfare services department in Prince Consort Road.

Greenock, Renfrew.—A site of 110 acres in the Kip Valley, near Spango and Kingston Farms, Greenock, has been acquired by International Business Machines World Corporation, a United States firm, for the erection of a factory to employ about 5,000 people. Proposals have been approved by the Board of Trade, Greenock Corporation, Renfrewshire County Council, and Ardgowan Estates Ltd., and it is understood that buildings will be erected by Scottish Industrial Estates. Recreational facilities, to include a golf course, will be supplied for employees.

Hainault, Essex.—The L.C.C. proposes to lease a site on Hainault Estate to Gainsborough Chocolates Ltd., Warwick Road, Hackney, as the firm will be displaced from its present premises by housing developments. D. Dowling Ltd., 370 Ilford Lane, Ilford, plan the construction of a factory.

Hastings Corporation has been informed that firms are interested in obtaining sites on the proposed light industrial estate at Ponswood Road for various buildings as follows: A bakery for Borgeaud Ltd.; bakery and warehouse for Hastings C.W.S. Ltd.; dairy for Penshurst Farm Dairies; and buildings for F. Jackson; Gnome Home Rug Making Machines; Formglass Products; R. W. Dicker and Co.; and Properties (Hastings) Ltd.

Heywood, Lancs.—Plans have been submitted to the B.C. for the erection of a coach building factory at Manchester Road for Haywood Motors Ltd.

Hull.—Subject to B.O.T. approval, the T.C. Planning Committee will consider an application by M. B. Harding Ltd. for lease of site on Reform Street Industrial Estate. Jones Beverage Supply Co. (Hull) Ltd. have received B.O.T. approval to erect a mineral water factory at Plot No. 2, Scarborough Road.

Glasgow.—The Glasgow Cleansing Committee has approved an amended scheme for a canteen and washing department at the proposed refuse destructor for all employees of the works and garage. The cost is £54,000.

Jarrow and Sunderland, Durham.—The Board of Trade has announced that two more factories employing mainly men are to be built at Jarrow and Sunderland. Further factories are expected also at North-West Durham.

King's Lynn, Norfolk. — Mr. H. Marsh, King Street, King's Lynn, is the architect for a new factory for Bestyett Mineral Water Co. Ltd.

Leatherhead, Surrey.—A new factory proposed by Ronson Products Ltd., of Dorcourt.

Liverpool. — Automotive Products Co., of Leamington, Warwickshire, have selected a site at Speke, Liverpool, for a large factory. The factory will have a floor space of 180,000 sq. ft. at first, and later be expanded to more than 200,000 sq. ft. It will employ about 1,000 men and 350 women. Liverpool Corporation has been recommended to lease land for new factories as follows: Site off Woodend Avenue, Speke, to Harvey Harris and Co., ophthalmic opticians, 106 Bold Street, Liverpool, for manufacture of lenses and optical goods. On Kirkby Trading Estate, to John Dickinson and Co. Ltd., plastic manufacturers, Liverpool. On Kirkby Trading Estate, to Albright and Wilson Ltd., chemical manufacturers, of Oldbury, Birmingham. Extensions are approved by the T.C. at the Nuclear Physics Research Laboratories in Mount Pleasant.

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Jelks of Holloway

London, Edmonton.—A canteen is to be constructed for Glover and Main Ltd., 48 Grosvenor Gardens, S.W.1.

London, E.C.—Plans are prepared for a new hall in Bucklersbury for the Worshipful Company of Shipwrights, 24 St. Mary Axe, E.C.4.

London, E.C.—A canteen is to be erected in Shoe Lane, E.C.4, for London Express Newspapers Ltd., Fleet Street, E.C.4.

London, E.C.—A distillery is planned at Goswell Road, E.C.1, which may cost £200,000. The proposers are Tanqueray Gordon and Co. Ltd., 132 Goswell Road, E.C.1.

London, E.C.—Reinstatement works at Norwich Street, E.C.4, are proposed by Noakes Bros. Ltd., 27 Furnival Street, E.C.4. J. Burn and Co. Ltd., of Saffron Hill, E.C.1, propose rebuilding of works at a cost of £20,000.

London, E.C.4. — Alterations and repairs, etc., to canteen kitchen and dining hall at Northcliffe House, Whitefriars Street, E.C.4, for Associated Newspapers Ltd., Carmelite House, E.C.4.

London, S.E.—J. Garner and Sons, The Grange, S.E.1, are to rebuild factory.

London, W.C. — Tenders will be invited next month by the Indian Government for the erection of an Indian students' hostel at Fitzroy Square, W.1, to cost about £80,000. The architect is Ralph Tubbs, 35 Welbeck Street, W.1.

Loughton, Essex.—Mr. F. Smith, 219 Knightsbridge, London, S.W.7, is the architect for a new factory proposed by Hilgar and Watts Ltd.

Margate Corporation has approved in conjunction with the Klinger Manufacturing Co. Ltd., Hawley Square, Margate, acceptance of the tender £106,298 of Rice and Son Ltd., Prudential Building, Margate, for the erection of a factory on Ramsgate Road Estate.

Newcastle-on-Tyne. — Contracts are expected to be settled shortly for canteen and office in Shields Road for Cut-Outs Ltd., and a paint spraying shop in Benfield Road for Northern Coachbuilders Ltd. The architects for both schemes are S. J. Stephenson and Gillis, Saville Chambers, North Street, Newcastle-on-Tyne.

Norwich.—Messrs. Adamson, Gray and Adamson are seeking T.C. observations on a scheme to provide an ice rink, open-air swimming pool and restaurant at a nine-acre site off Clabon Road. The City Engineer, H. C. Rowley, has received sketch plans for the scheme.

Nottingham.—The architects for a hall of residence planned at Nottingham University are Turley and Williamson, 14 Eldon Place, Newcastle-on-Tyne. The cost is estimated at £222,698.

Peterborough, Northants.—Plans submitted: Canteen and kitchen, Fengate. Thomas and Evans Ltd.

THE MONTH'S ENGAGEMENTS

Ashridge—Course 53
6-9 "Industry: The Team Spirit." Berkhamsted.

British Institute of Management, Pendley Manor
24-29 Five-day Course for Foremen and Supervisors in Industry. Tring.

Industrial Welfare Society
13-16 "Workers' Representatives on Works Committees." Ashridge.

Institute of Economic Engineering (North West Region)
20 "The Rôle of the Trade Union in Engineering Industries." H. Scanlon (Divisional Organiser of the A.E.U.). Engineers' Club, Manchester. 7.30 p.m.

Institute of Industrial Administration
London Centre: Ninth Series, Higher Management Course (*admission by ticket*), Management House, 8 Hill Street, W.1. 6.30 p.m.
4 "Policy, its Nature and Scope." E. F. L. Brech.
11 "Interpretation and Implementation of Policy." Donald Macdonald.
School of Hygiene and Tropical Medicine, Keppel Street, W.C.1. 7 p.m.
25 "The Facilities Available to Management: How can the F.B.I. and the T.U.C. Help?" Bertram White and E. P. Harries.
Cardiff Centre:
23 "Management of Nationalised Industries." Roland Bird. *The Economist*, Park Place. 7.15 p.m.
Coventry Centre:
11 The Fight Against Friction, Frustration and Fear in Foundry, Factory and Forge." Sir Harold West, Geisha Café. 7.15 p.m.
Harrow and Wembley Section:
12 "Workers' Participation in Industry." No. 1. "The Executive's Role." Glacier Metal Co., Alperton. 7 p.m.

Institute of Industrial Supervisors
12 "Some Aspects of Training for Production." T. B. Worth, Polytechnic, Regent Street, W.1.

Institute of Personnel Management
13-15 National Conference. Harrogate.

Institute of Welfare
13 Dinner Discussion: "Welfare Outside the Factory." Miss M. A. Mackie, M.B.E. (*Ministry of Labour and National Service*). Chairman: T. Callis, West Central Hotel, W.C.1. 7.30 p.m.

Institution of Works Managers
25 Luncheon Meeting, Waldorf Hotel, London (12.30 for 1 p.m.). Principal guest: The Minister of Supply. (Annual General Meeting follows.)
London Branch:
16 Annual General Meeting and showing of film-strips. Waldorf Hotel, 6.45 p.m.
Leicester Branch:
3 Annual Dinner and Discussion. "Factory Discipline." J. Ayres (*Brush Electrical Eng. Co.*). Bell Hotel, 7 p.m.
Merseyside Branch:
10 "The Factories Act, 1948." C. P. Gourley (*H.M. Superintending Inspector of Factories*), Adelphi Hotel, Liverpool, 6.30 p.m.
Notts and Derby Branch:
6 "Industrial Management and its Human and Social Implications." A. P. Young, O.B.E., Mechanics Institute, Nottingham, 7.30 p.m.

Rawtenstall, Lancs. — Plans submitted: Rebuilding of storeroom and messroom at 65 Bank Street, Rawtenstall, for Irwell Valley Water Board.

Salford, Lancs.—An inquiry has been held into Winterbottom Book Cloth Co.'s Ltd. proposal to rebuild warehouses and dyeworks.

Sheffield.—The T.C. is recommended to lease land at Hoyle Street to E. Middleton and Sons Ltd. as a temporary site for a dry cleaning factory.

South Shields.—The T.C. will obtain tenders for erection of a warehouse at the Riverside to be let to Jebb Bros., and will support an application by Eskimo Slippers Ltd., South Taylor Street for erection of a new factory.

Warrington, Lancs.—An expenditure of £1,000,000 on extensions is proposed by Joseph Crossfield and Co. Ltd. Plans approved: Extensions at Grappenhall Works for Richmonds Gas Stove Co. Ltd. A factory at Hawthorne Street for J. Tennant and Sons (Warrington) Ltd.

Warsash, Hants.—Hampshire County Council Planning Committee is to ask the Minister of Town and Country Planning to hold a public inquiry into proposals of the California Texas Oil Co. Ltd. (Caltex) to build an oil refinery on the shores of Southampton Water on a site between Titchfield Haven and Hook Park, near Warsash.

Watford.—Sun Printers Ltd. have submitted to the T.C. preliminary plan for large factory extension on site between Sydney Road and present building. Part of the new building is proposed as a six storey block.

West Bromwich.—The T.C. is recommended to reserve a two-acre site at Lyttleton Hall Estate for lease to McArthur and Co. Ltd.

Wigan. — Plans approved by the R.D.C. for the erection of a fireworks factory off Skull House Lane for E. Owen.

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Applications, giving full details of age, qualifications, experience, etc., and the names of two persons for reference, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield 11.

W. STANSFIELD,
Secretary.

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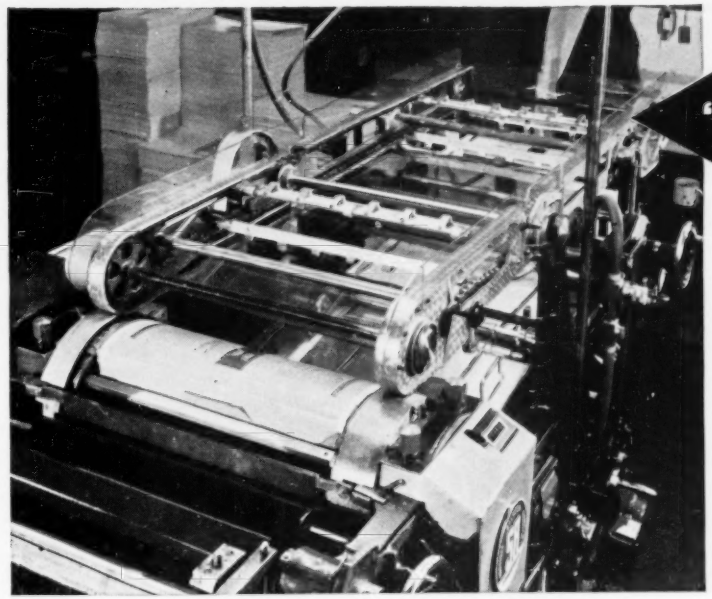

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